

CA 20N

LF

- 1899 A56

Government
Publications

FORESTRY,
ONTARIO, 1899.

Presented to the Faculty of Forestry



LIBRARY

By A. J. Herridge A.D.1977

4398

UNIVERSITY OF TORONTO



Digitized by the Internet Archive
in 2022 with funding from
University of Toronto

<https://archive.org/details/31761115470114>

ANNUAL REPORT
OF THE
Clerk of Forestry
FOR THE
PROVINCE OF ONTARIO

1899.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



H 8 16 8
H 8 16 8
1899 | 5 00

Toronto :

Warwick Bro's & Rutter, Printers and Binders, 68 and 70 Front Street West.
1899.

Bureau of Forestry,

TORONTO, Oct. 1st, 1899.

Hon. J. M. Gibson,

Commissioner of Crown Lands.

SIR,—I have the honor to transmit herewith the Report of the Bureau of Forestry for the year 1899. Aside from some remarks on the application of forestry methods by farmers in the way of wind-breaks and shelter-belts, reference is made to the adoption by the Government of the Forest Reserve policy, and a brief account of the Eastern Forest Reserve.

In studying the development of the Crown Timber system of the Province, many facts not hitherto published came to my notice, and with the assistance of the Assistant Commissioner of Crown Lands a brief account of the various stages of development from the days of the French regime to the present time has been compiled, in the hope that it may be valuable as a work of reference, and interesting to students of constitutional history.

I have the honor to be, sir,

Your obedient servant,

THOS. SOUTHWORTH,

Clerk of Forestry for Ontario.

THE PROGRESS OF FORESTRY IN ONTARIO.

In considering the progress of the movement in the direction of rational and scientific forestry methods in Ontario, it is difficult to over estimate the importance of the legislation introduced by the Commissioner of Crown Lands in the Legislature of 1898, styled the Forest Reserves Act, by which power was given the Government to set aside areas of the Crown domain to be kept perpetually for growing timber.

The *Canada Lumberman*, the organ of the men who are popularly but erroneously supposed to be opposed to rational forestry, calls it "the most important Act that has passed the Legislature for many years." While the far-reaching consequences of the carrying out of this Act are readily perceptible to those who have made a study of the subject, it is doubtful if the great value of the Forest Reserves Act to the people of Ontario is generally appreciated. The Bureau of Forestry receives many letters expressing sympathy with the efforts to promote scientific forestry in Ontario, and quite frequently the hope is expressed that we may soon adopt the system in vogue in Germany

WHAT IS FORESTRY ?

Scientific forestry, as the writer understands it, is the growing of wood crops for profit, and from that standpoint the expensive and semi-military forestry system of Germany is out of the question in this country, where only a comparatively small part of the forest crop has a market value. Germany, with a much smaller acreage under timber than we have, expends more on her forestry service each year than the total expenditure for all services in Ontario. In a country where every product of the forest has a market, even to the leaves and the roots of trees, it is profitable to plant trees on a large scale at a cost of \$10 to \$15 per acre, but in Ontario where the territory to be operated is so large and labor high, where only a portion of the most valuable sorts of trees can be sold, the financial profit in this method of forest culture would be problematical.

NO NEED FOR EXTENSIVE PLANTING.

Fortunately we do not need to follow this plan. If fire and the farmer's plow are kept away the forest crop will re-seed itself, and the first thing to be done is to see that areas of land suitable for tree growing are permanently secured for that purpose, confining the actual planting operations to such scattered blank spaces as have failed to seed readily, and to so direct the cutting of the standing crop as to insure a continuance of the right sorts of trees.

In arranging for such a systematic method as will be most profitable to us, the Forest Reserves Act is the first important step, is, in fact, the inauguration of a scientific forestry system in Ontario.

FORESTRY DEVELOPMENT.

A perusal of the historical sketch of the development of our Crown Timber regulations, appearing elsewhere in this report, will disclose a steady progress in the direction of obtaining for the whole people as great a profit as possible from the great crop of standing timber with which we were originally endowed. From allowing a favored firm of contractors to cut timber at their own sweet will, where and when they chose, free of any charge by the State, to selling the standing pine timber only for \$17,500 per square mile, plus \$1.25 per 1,000 feet, board measure, when the timber is cut, is very great progress in the direction referred to, yet that is what has been accomplished.

A FARMING COUNTRY.

Until quite recently Ontario was regarded as a purely agricultural country, adapted only to agriculture, in which timber was not considered a profitable crop. The aim of our legislators was to clear the ground for general farming purposes, and in doing so to first dispose of the most valuable timber to the best advantage. On that basis it is doubtful if any better system could be devised than that embodied in the Crown Timber Act of 1849, with the subsequent amendments and the regulations adopted under it. That Act provides for the sale of the standing crop of timber to the highest bidder, the fee simple of the land remaining in the Crown, to be disposed of subsequently to the settler. The lumberman is given a license to cut certain specified kinds of timber on payment of the price agreed upon, but this license is granted only from year to year, to insure the carrying out of such regulations as the Government may impose from time to time, and to secure the removal of the lumberman from the land when it is needed for settlement.

THE LUMBERMAN'S TITLE.

Under the present system of selling the timber, the lumberman pays by way of a lump sum in cash, called a bonus, what he estimates to be the value of the timber standing on a "limit" or "berth," less the fixed stumpage charge of \$1.25 per thousand feet, which he pays as the timber is cut. He gets a license to cut for a year only, but relies on the good faith of the Government for a renewal of his license each year, until he shall have had time in which to remove the standing timber which he has partly paid for in advance. Even in case the land, or part of it, is required for settlement he is given time to remove the timber covered by his license.

In all this it is plain that the idea of the framers of this legislation looked to the future rural population of Ontario to be solely farmers and not foresters.

UNPROFITABLE SETTLEMENT.

Under this system, while very large sums have been annually added to the Provincial revenues from the sale of timber, much land has been settled that would have been better left in forest, and we have found that considerable areas throughout the Province can be more profitably devoted to growing trees than to any other crop. The growing of forest crops for profit requires not only cheap land but a long and secure tenure of the land, and the ability to wait a long time for financial returns. The forester expects the crop he has sown to be harvested by his successors, and requires to be sure that the land on which he is conducting his operations shall be devoted permanently to his purpose. Because of this, forestry can only be successfully or satisfactorily carried on by the State, and the lands to be worked for timber crops should be owned or controlled by the whole people; and as Government control of private lands must necessarily be somewhat limited in this country, it is expedient that Government ownership should be the rule in our future forestry operations as it has been in the past.

GOVERNMENT OWNERSHIP.

The Forest Reserves Act makes provision for this perpetual ownership, and is thus the initial step in preparing for a rational system of forestry that shall provide not only for the proper harvesting of the present crop of timber, but that the otherwise unproductive lands of the Province shall produce for all time to come successive crops of the same kind for the maintenance of the vast industries dependent on forest products, and the perpetuation of one of our principal sources of Provincial revenue.

PRESENT TIMBER SUPPLY.

In speaking of the timber supply of the future it is not necessary or wise to overlook the fact that we have still in the "original" crop sufficient for our needs for many years at the present rate of cutting.

In the early days of lumbering in Ontario, most of the operations were carried on upon rich agricultural land, and while there was undoubtedly much waste by fire and from using very valuable timber for purposes that would have been as well or better secured by cheaper woods, it helped to clear the land for the plow of the farmer, and hence was perhaps profitable to the Province. The land was needed for agriculture and had to be cleared. The land that has been thus cleared and settled, however, forms but a small portion of the total wooded area of the Province.

It is customary among many people when speaking of our supplies of timber to treat the timber land already licensed as gone from the possession of the Province; that the timber thus sold is a "vanished asset," so to speak, forgetting that on this licensed territory there are still vast quantities of pine to be cut for our future needs and for export; and for every thousand feet of this timber when cut the Province has to be paid. Of the twenty odd thousand square miles of territory now under license to lumbermen, a large

part is reported to be unsuited for cultivation. The present system of fire ranging renders a great part of this comparatively safe from fires, and, if it be not settled or squatted upon, there is no reason why it should not yield a revenue so long as it is kept in timber and properly worked. The amount paid into the Provincial Treasury from this source in 1897 was \$1,082,054.56; in 1898, \$756,434.34;* this is exclusive of bonus or ground rent, simply for dues on the timber as it is cut.

LOSS IN CUTTING SMALL TREES.

As the land under license may be withdrawn by the Government for settlement purposes at any time, no doubt many lumbermen have cut their holdings more rapidly and more closely than would have been the practice but for this want of security of tenure. Upon every tree cut before it reaches maturity, the Provincial Treasury is a loser as well as the lumberman, just so far as the rate of growth and the increase in the value of timber exceeds the rate of interest, which is of course greater in the case of the lumberman than of the Government.

Referring to this loss by cutting trees of too small diameter, the Preliminary Report of the Royal Commission on Forestry states:—

“A young tree which would cut only one log eight inches in diameter and sixteen feet long, measuring sixteen feet board measure, would, if allowed to stand for thirty years, grow in diameter at the rate of one inch in five years—in some cases growth is as rapid as an inch in two years—hence would give a butt log of fourteen inches diameter sixteen feet long, or 100 feet of lumber, board measure. In addition to this, however, this tree would have grown in height sufficient to give two more logs, one say of eleven inches and one of eight inches diameter, both sixteen feet long, measuring respectively forty-nine feet and sixteen feet b.m. Thus, a tree that requires, perhaps, forty years to make its first sixteen feet of merchantable timber would in thirty years more have increased to 164 feet. This may be considered the period of greatest relative growth. After attaining a diameter sufficient to make a fourteen inch butt log, your Commissioners estimate that the tree would continue to gain at the rate of $3\frac{1}{2}$ per cent per annum. This bare statement of the case shows the necessity of protecting the young growth of pine in the interests of the Province. The advantage to the lumberman in holding his trees until they have reached the larger diameter is still more marked, because of the greater price per 1,000 feet commanded by lumber cut from the larger logs.”

FOREST RESERVES.

The immediate aim of the Commissioner of Crown Lands in proposing the Forest Reserves Act was the reclamation of waste areas of Crown Lands that had been burned over after lumbering, and were unsuited for settlement, having also in view, no doubt, the ultimate extension of the system of reserves to lands on which the timber has as yet

* The falling off in 1898 was due to the smaller cut of Michigan holders of limits. This year the revenue will be much larger.

been unsold, and to areas now under license unfitted for agriculture, provided equitable arrangements can be made with the license holders. The Crown Lands agent at Plevna in the township of Clarendon, having reported the presence of a large tract of burned over, unsettled land, on which a fine crop of young trees was growing, the Clerk of Forestry was instructed to make a special report upon the territory, which he did in the Fall of 1898, as follows:—

TORONTO, December 1, 1898.

The Hon. J. M. Gibson,

Commissioner of Crown Lands:

SIR,—In accordance with instructions received from you, I visited the townships of Abinger, Miller, Barrie, and Clarendon, in the counties of Addington and Frontenac, spending two weeks in the district, and beg to report as follows:—

The first settlement of any consequence in these townships took place in the early sixties, on the completion of what is known as the "Snow" or Addington Road. The few settlers previous to that were men engaged in lumbering, and who had built cabins and cleared a small piece of ground for the purpose of growing vegetables and oats. They were "shantymen" rather than farmers, and it was not till the opening of the Colonization Road that any systematic attempt at farming was made.

Lumbering, or rather square timber operations, had been carried on for some years previous to this, supplies for the men being taken in by water.

The early operations were confined to taking out only the choicest and largest pine for square timber, and this could have been continued, at intervals of a few years, indefinitely, except for fires. The great quantity of debris left in the woods after making square timber, together with the careless methods of the lumbermen, nearly always caused a forest fire, and this district proved no exception. Wherever the lumberman went fire followed him, and, instead of leaving behind him a forest improved by the removal of a few of the oldest and largest pine, there remained a forest of bare, limbless poles, where the mass of green trees had stood. Even now, years after the fires, the forest of dead pines or "rampikes" stands so thick as to convey the idea of a great hop yard, and this effect is enhanced by the young, green forest which conceals the bottom of the dead pines.

Although over thirty years have elapsed since settlement began in earnest in these townships, it is still, except in the case of Clarendon, very thin and scattered.

The country is rocky, or I might say mountainous, with numerous lakes and streams and occasional depressions or ravines, in which is found a gravelly soil, full of boulders, but very strong, and capable of producing splendid crops of grain and vegetables and fine pasture. These spots of arable soil are not numerous and are of very limited extent; very rarely can a level field of ten acres be found, and this good land is practically all taken up. The lumber industry, on which many of the settlers at one time depended to a great extent for work in winter, and for a market for their live stock and hay and vegetables, is now a thing of the past, and, as they are a long way from a railroad, their

market is a poor one. At present the farmers in the district are hoping for a mineral development that has been long looked for but is slow in coming.

Throughout the whole four townships where it is not plowed a very vigorous growth of young timber is now standing.

This timber is of mixed growth, as was the original forest that was burned off. In the younger stages of this forest, poplar (aspen) and birch, white and yellow, predominate; but where it is of larger growth, say twenty years, the white pine disputes with these trees for first place, and in many instances is the most numerous. While poplar and the birches seed more readily than the coniferous trees, they also sprout quickly from the old stumps, and many of the young trees of these varieties are of coppice growth, having sprouted from the stump of the old trees killed by the fire.

The pines and spruces do not sprout in this way, but only come from seed, hence deciduous trees get a start of the conifers. This fact, together with the more general distribution of the seed of poplars and birches, causes the young forest for the first few years to be largely composed of deciduous trees. While the sprouts from the old stumps grow more rapidly at first than the seedlings, they are not so rugged, and are eventually killed out by the more hardy pines, which grow more vigorously after this is accomplished. In this way the preponderance of the birches and poplars ceases, and, in this territory, pine becomes the principal tree. The deciduous trees have in the meantime served the useful purposes of shading the young pines, protecting them from the destructive effects of the sun when they first come up from the seed, and, later, killing the lower branches, which fall off and leave the trunks clean and bare of limbs up to the general leaf canopy of the forest.

Over nearly all this territory white pine is, or will be, the dominant tree. There are occasional narrow strips or ridges of hardwood, maple, birch, elm, etc., among which there is little or no pine, but these compose but a small part of the whole area, which is essentially a pine country.

AGE OF FOREST.

In most of the territory examined the young pines were of varying size and age, ranging from trees of a year old, only a few inches high, to those of forty feet in height, with a diameter of seven or eight inches. In some instances there are occasional trees of a much larger size, but they are not so numerous, and need not be taken into account.

In some sections there has been no fire for eighteen or twenty years, in others not for ten years, while in Barrie a fire this past summer swept over a few thousand acres, killing a thrifty crop of young timber, probably ten years old.

DENSITY OF CROP.

The stand of young pine is heavy, 600 trees to the acre being not unusual. The township of Miller appears to have the heaviest crop of pine, but over the four townships, 400 pines to the acre may be taken as a fair average.

While this is a fair crop for this land, it is much below that in some places in the Province and elsewhere. In a bulletin issued by the University of Minnesota on the "Rate of increase of the cut-over timber lands of Minnesota," Mr. H. B. Ayres shows the growth of white pine to be much in excess of the growth in the section of Ontario referred to. He also found a much heavier growth of young pine on land that had been burned over than on land that had escaped the fire. In one case he found a tract of land thirteen years after burning, on which there were 710 white pines to the acre. On another lot that had been repeatedly burned during the preceding twenty-five years there were 4,304 seedling trees to the acre, of which 1,530 were white pines. On an abandoned field in Carleton County, Minn., Mr. Ayres reports 1,270 white pines to the acre, 3½ inches to 8 inches in diameter, 30 to 36 feet high.

In various places in the townships investigated, a block of land an eighth of an acre in extent was measured off by tape-line, and the trees of all varieties carefully counted. The number of trees of each variety, multiplied eight times, has been taken as the number on an acre, and while not absolutely correct for the larger area, owing to unevenness in seeding, it is sufficiently so for our purpose, and as apt to be under as over the actual number, for the places selected for counting were considered to be only average samples.

I will illustrate by two sample eighth-acres in the townships of Clarendon and Abinger, where the stand of young timber was as follows:—

Lot. No. 1.		Lot No. 2.	
White pine	54	White pine	55
Poplar	51	Poplar	104
Birch	26	Birch	27
White cedar	20	Hard maple	5
Spruce	4	Willow	5
Tamarac	2	Spruce	3
Red pine	1	Tamarac	2
Total	158	Balsam fir	3
		Total	204

Multiplying these figures by eight gives the stand per acre as follows:—

Lot No. 1.		Lot. No. 2.	
White pine	432	White pine	440
Poplar	408	Poplar	832
Birch	208	Birch	216
White cedar	160	Hard maple	40
Spruce	32	Willow	40
Tamarac	16	Spruce	24
Red pine	8	Tamarac	16
Total	1,264	Balsam fir	24
		Total	1,632

In the case of Lot No. 1 the age of the oldest trees shows that about twenty years have elapsed since the last fire, while the age of the forest in No. 2 was five years less.

It will be noticed that the poplars in Lot No. 2 are twice as numerous as in Lot 1, but they are already dying off, and it is probable that within the next five or six years there will be no more than at present on the older lot, No. 1.

In neither case were the dead trees, some standing, some already rotting on the ground, taken into account.

The pines throughout the district are making very rapid growth. Four young trees taken from a grove near the road in the township of Miller gave the following measurements :—

No.	Height.	Diameter.	Annual rings.
1.	22 feet.	$4\frac{1}{2}$ inches	13
2.	30 "	$6\frac{1}{2}$ "	16
3.	22 "	$3\frac{3}{4}$ "	10
4.	25 "	$5\frac{1}{2}$ "	14

These trees were only average ones for this particular locality, but are above the average in rapidity of growth for the whole area. They are increasing in diameter at the rate of an inch in 2.68 years, whereas the estimate of the Forestry Commission for the whole Province was an inch in five years. At the same time I have a section of young pine $8\frac{1}{2}$ inches in diameter, cut in the township of Burleigh in 1897, increasing its diameter at the rate of an inch in 2.23 years. The trees here have grown fast since they came up, and will continue to do so until they become too crowded, when the weaker ones will be overshadowed and crowded out.

The soil would sustain a greater number of trees for many years to come if they were planted at regular distances apart, but they are not so placed. Fifty years from now 300 pines to the acre would be a good crop on this land if planted regularly, but under present conditions it is fair to assume that only 200 of the 400 to 600 pines now standing will still be growing, and it is not guess work to estimate that if fire can be kept out for fifty years longer much of this land will carry a crop of pine that will yield 50,000 feet, board measure, to the acre.

This may seem an extravagant estimate to many lumbermen who have been accustomed to taking out some pine and burning the rest, but it should be borne in mind that this is peculiarly a pine district, and doubtless carried a much heavier crop than that at one time. Hon. J. D. Lyman of Exeter, New Hampshire, writes that he has a tract of second growth pine, grown upon abandoned land during the past sixty years that will now yield 50,000 feet of pine to the acre, and two years ago there was cut on the Rathbun Company's limit, in this same section of the Province, 100,000 feet of pine to the acre, over a tract of land ten acres in extent through which a tornado had swept.

Assuming that my estimate is in reason, and I believe that, taking the very rapid growth of pine in the district into account, it is low, the value of this wild land for timber purposes is considerable. Taking the extremely favorable situation of the tract, with easy water carriage to the mills, the value of the standing timber fifty years from now will not be less than \$5 per thousand, board measure, and at 50,000 feet to the acre this would represent \$250 as the value of the standing timber per acre at that time. The sum required to produce this amount in fifty years, compounded at 3 per cent., is \$57.03, which represents the present value of the otherwise worthless land. Applying this to a territory of say 80,000 acres, it would show, provided it was all equally well timbered, a cash value, fifty years from now, of \$20,000,000. It is not all equally well wooded, of course, but the greatest part of it is fully up to this standard, and I do not think it would be unreasonable to assume the cash value of such a tract at at least half

that sum at that period. I know these figures appear large for so small a tract of land, but it must not be forgotten that the Government of Saxony realizes a net income from the state forests of \$4.30 an acre yearly, and this with a very elaborate and costly forest administration.

COST OF MANAGEMENT.

Against this account must be placed the cost of protection, taxes, etc., for fifty years. So far as the Government is concerned, there would be no taxes on this land, and the cost of protection may be helped out in a few years by the sale of small timber for fuel and other purposes, small timber that, to assist the growth of the rest of the forest, should be removed. There are already some local sawmills, and these could easily be converted into factories for making up the birch and other hardwoods for export were it not for the absence of railway connection, but still a market for much of this material may be found.

The territory is exceptionally well watered, Miller alone containing thirty lakes, and the other townships being nearly as well supplied. It is drained by two rivers, the Madawaska and Mississippi, tributaries of the Ottawa.

I consider the territory well suited for a reserve under the Forest Reserves Act of 1897-8, and therefore beg to suggest that reserves be created in the various townships to the following extent:—

RESERVES.

In Abinger, 24,500 acres, more or less; in Miller, 27,500 acres; in Barrie, one lot of 16,000 acres, and one of 7,000 contiguous to 4,000 in Clarendon, making a block of 11,000 acres, in all about 80,000 acres. The lots to form the various reserves are mentioned in the attached schedules.

REGULATIONS.

I would suggest for the protection and care of the reserve that some responsible and intelligent person, situated near the centre of the four reserves be appointed Forest Guardian, to have charge of the reserves, and that he be paid a sufficient salary to have a personal supervision of the various reserves from time to time throughout the year;

That suitable persons among the settlers living near the reserves be appointed as Fire Guards, under the control of the Forest Guardian, to be paid a small fixed sum each year for their services. It should be their duty to keep a lookout for fires in their district and extinguish them before they assume any magnitude when possible. In the event of their inability to control a fire, they should be instructed to at once notify the Forest Guardian, who should have authority, when he considers it necessary, to employ assistance and proceed to combat the fire as soon as possible, the wages to be paid for such extra service to be fixed by the Department.

The Forest Reserves Act, clause 3, states: "And no person shall locate, settle upon, use or occupy any such lands, or hunt, fish, shoot, trap or spear, or carry or use

fire-arms or explosives within or upon such reserves." As this is a great fishing and hunting resort, and the settlers have been accustomed to going through it at will, it is to be expected they would resent the attempt to exclude them in this way. I would suggest that this be modified by a regulation requiring any person who wished to go upon the reserves for prospecting or other purposes to first procure a permit from the local Forest Guardian, which might be issued free of charge upon the applicant stating the purpose for which such permit was desired, and at the discretion of the Forest Guardian. In this way the risk of fire would be lessened, because of the greater facility of fixing the responsibility for such fires should they be started.

It may also be found necessary to employ a Fire Ranger for the two most dangerous periods of the year, in May and in the autumn, to patrol the reserves and see that no unauthorized parties are fishing or hunting through the reserves, and to see that parties holding permits take proper precautions against fires.

There has heretofore been a Fishery Overseer appointed by the Dominion, as well as a Game Warden in this district. In case it is decided to employ a Fishery Overseer, the same man might combine the three functions of Fire Ranger, Fishery Overseer and Game Warden.

The boundaries of the reserves should be marked in some way, possibly by posting notices on trees, and to secure the co-operation of the settlers in protecting the young timber, it would be well to circulate literature among them showing the object of the reserves, and the probable benefit to them of having such reserves, with the future resultant wood industries they would entail.

The townships of Abinger, Miller and Clarendon are open for settlement under the Free Grants' Act, and some locations have been granted upon which the settlement duties have not been performed, and upon which no one is living. Some of these have been applied for because of small lots of cedar or other timber left by the lumbermen, and in some cases because they contain "beaver meadows," upon which the locatee is accustomed to cut wild hay. The local Crown Lands agent recommends the cancellation of several of these locations.

In the case of "beaver meadows" in the reserves, it might be well for the Forest Guardian to award the privilege of cutting the hay upon them yearly to the parties tendering the highest sum.

Appended will be found maps of the townships of Abinger, Miller, Clarendon and Barrie, with patented and located lots marked, showing also the boundaries of the four blocks proposed for the Forest Reserve.

I have the honor to be, sir,
Your obedient servant,

(Sgd.)

T. SOUTHWORTH,
Clerk of Forestry for Ontario.

Although almost the whole of this territory has been burned over, the license holders had not relinquished it, but were engaged in taking out dead pine and some cedar and hard-woods that in low, wet places had escaped the forest fires. Most of the territory was under license to Mr. Isaac Allan, of Mississippi Station, and as the result of a conference between that gentleman and the Assistant Commissioner of Crown Lands, an arrangement was arrived at for creating a Forest Reserve in the Townships of Abinger, Barrie, Clarendon, Miller and Palmerston. By the arrangement the licensee has the right to take out dead and mature timber for five seasons free of ground rent, but subject to the ordinary timber dues, except in the case of the dead pine, on which no dues are charged.

The licensee, however, may only cut "subject to the direction of the Commissioner of Crown Lands, or any officer or agent appointed by him, and in such localities as shall be approved by the Commissioner of Crown Lands."

After final arrangements had been made with Mr. Allan, the following memorandum was approved by the Commissioner of Crown Lands:—

Memorandum for the Honorable the Commissioner of Crown Lands:—

With respect to the proposed forestry reservation in the townships of Abinger, Miller, Barrie, Palmerston and Clarendon, in the counties of Addington and Frontenac, the undersigned has the honor to state, for the information of the Commissioner, that a map has been prepared, showing all the lots which it is proposed to include. He has also had the records of the Sales and Free Grants Branch searched to see if any of the lots have been sold, located or leased under the Mining Act. A few of them appear to have been leased, and there is correspondence as to a number of others, although no sales or locations have been carried out.

The undersigned is of the opinion that there should be some person placed in charge of the reserve who would be the channel of communication with the Department as to matters of interest there, and who might be instructed respecting any matter requiring supervision or attention. He is further of the opinion that one or two fire rangers should be appointed during the summer months to travel through the territory and inspect the lots, in order to make sure as to whether there is any squatting or improvements on any of the lots proposed to be included in the reserve, which information ought to be had before the townships are finally proclaimed as a reserve under the Forest Reserves Act.

Mr. Wood of Plevna, who is the Crown Lands agent, and who resides in the centre of the township of Clarendon, might be a good man to appoint as superintendent, as he is familiar with the country and active and energetic.

The negotiations for the surrender of the territory having been completed, and the plans of the territory having been prepared, the undersigned is of the opinion that the

future management, protection and administration of the reserve should be assigned to the Clerk of Forestry, Mr. Thomas Southworth.

(Sgd.) **AUBREY WHITE,**
Assistant Commissioner.

May 25, 1899.

Approved.

(Sgd.) **J. M. GIBSON,**

Commissioner of Crown Lands.

In accordance with this Mr. A. W. Wood, Crown Lands Agent, was appointed Forest Guardian, and Mr. John Critchley was engaged as Fire Ranger for the summer. Nearly all the reserve has been inspected by the Forest Guardian as a preliminary to instituting proper forestry practice. For the most part the territory is found to be well covered with a young forest of the usual mixed type, white pine predominating.

REPLANTING.

There are occasional small lots, however, in which, owing to the uneven distribution of seed or unfavorable soil conditions, the tree crop is scant or entirely missing. As the present is not a seed year for pine it was found impossible to seed these spaces this year to that tree, and it was deemed advisable to introduce some of our profitable nut bearing trees. Accordingly shell-bark hickory and black walnut are being planted through the reserve in these blank spaces, and where there is a reasonable prospect of their success. The nuts are being planted, not trees.

Neither of these valuable timber trees is found in this section of the Province and it is generally deduced from this fact that they will not grow there. The hickory and black walnut in particular were originally restricted to a very limited area. That this is due to climatic reasons has been disproved by Sir Henri Joly in successfully growing the walnut tree on his estate in Quebec. The limited area in which these nut trees are found growing is more likely due to the difficulty in the natural distribution of the seed. For the most part Nature has to depend on squirrels and other small animals for the distribution of these trees, and when it is remembered that except in very wet places the nuts need to be covered to germinate and take root, it will be seen that they are badly handicapped in the race with other trees, the seeds of which are distributed by the wind.

There is every reason to believe that in the eastern reserve, where the ground is protected by a heavy snow fall, both trees will grow and thrive. The great difficulty in growing nut trees in a very cold climate consists in the large tap root, characteristic of nut trees, freezing too hard. Where the snowfall is heavy and regular as is the case on the eastern reserve, this danger is obviated. The experiment will be watched with interest, however, and there is every reason to believe it will be successful.



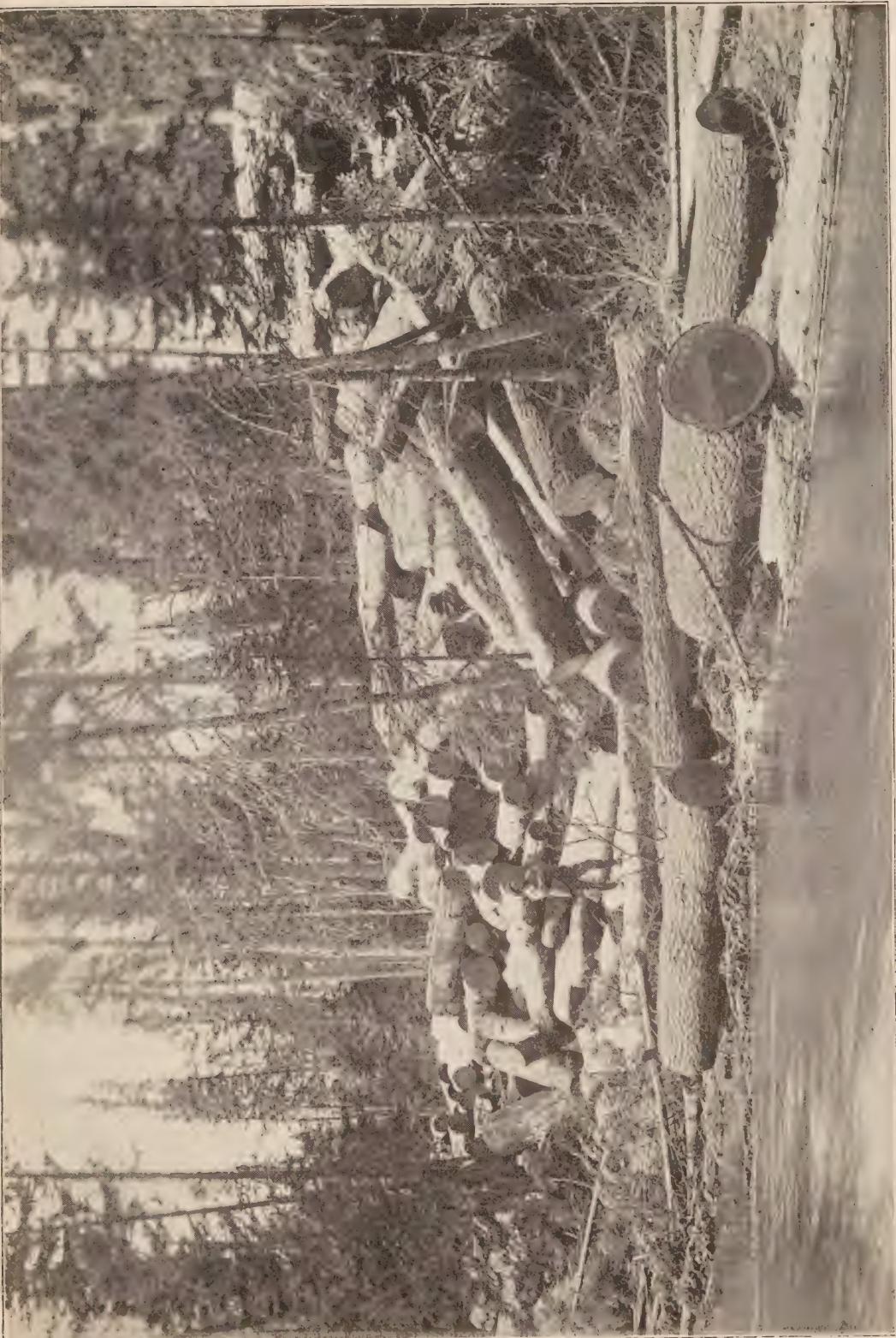
NO. I.

A TYPICAL ONTARIO FOREST OF MIXED GROWTH.

—Photo by J. C. Oceans, O.L.S.

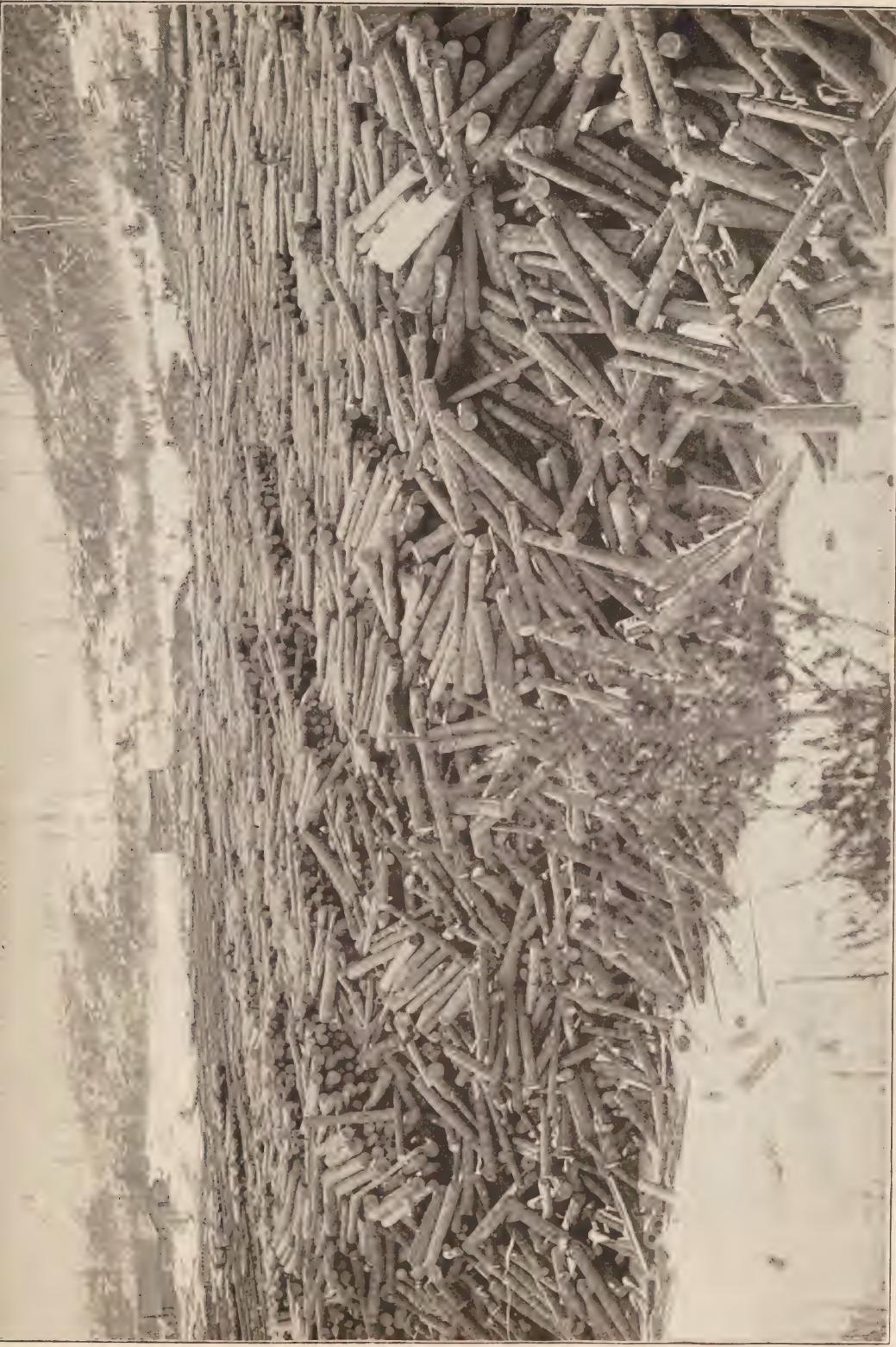
PRODUCT OF ONTARIO FOREST AND LUMBERMAN'S AXE,

NO. II.



FOREST PRODUCT—SPRUCE PULP WOOL PILED ON THE ICE—THESSALON RIVER.

NO. III.





NO. IV.

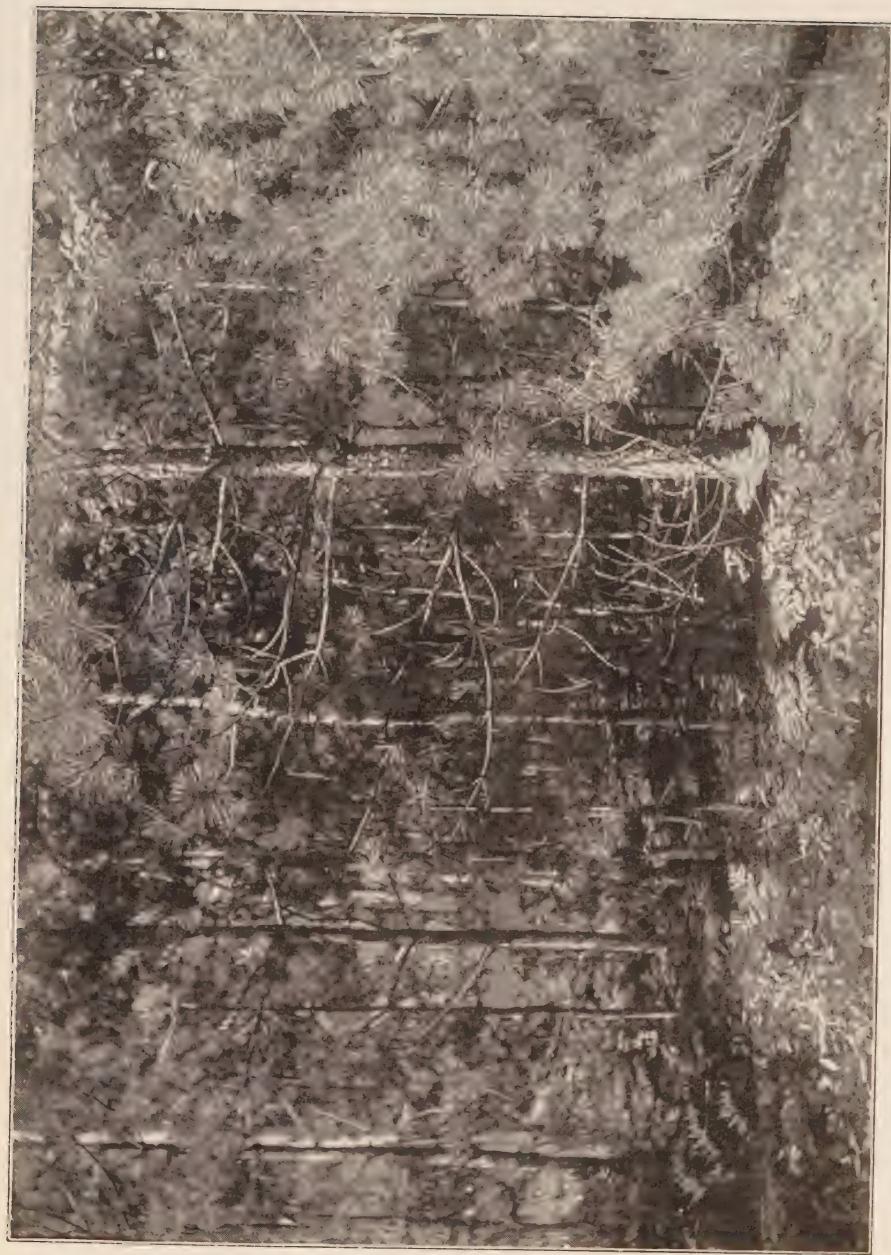
THESSALON RIVER IN SPRING—PULP WOOD ON THE WAY TO THE MILL.

NO. V.
YOUNG FOREST OF MIXED GROWTH—POPLAR AND BIRCH IN THE ASCENDANT.





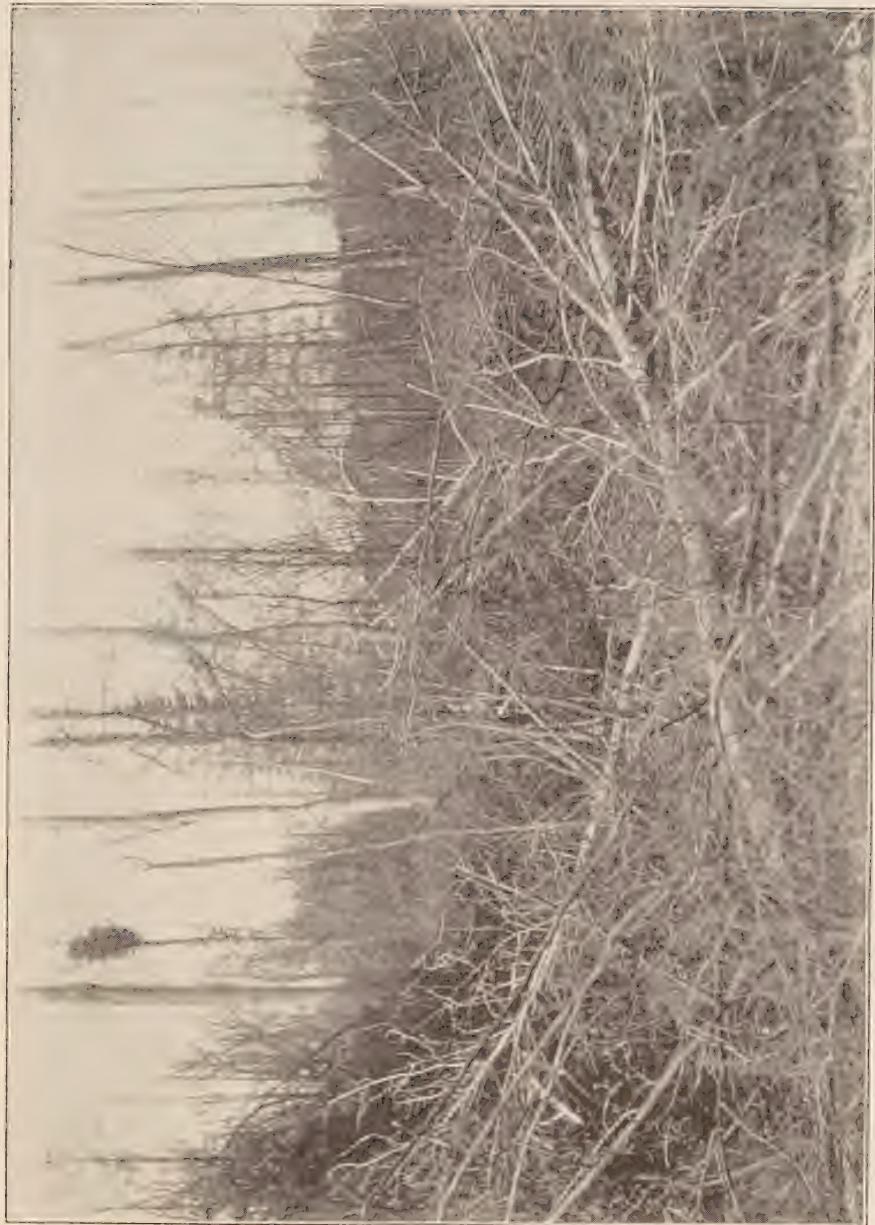
NO. VI. YOUNG FOREST OF LARGER GROWTH IN WHICH PINE HAS KILLED OUT THE HARD WOODS, AND IN WHICH NATURAL PRUNING, CAUSED BY SHADE, IS TAKING PLACE.



NO. VII. YOUNG FOREST OF RED AND WHITE GROWN UP PINES AFTER FIRE HAD DESTROYED THE
ORIGINAL GROWTH.

NO. VIII.

YOUNG MIXED FOREST DESTROYED BY GROUND FIRE AND WIND.



The Forest Guardian reports that during the season several thousand young pine saplings were pruned by himself and the fire ranger, and in places where the growth was too dense some of the less valuable saplings have been taken out. Where the growth is of the proper density the young pines are pruning themselves nicely, but this is not always the case and where pines stand alone or not sufficiently shaded to cause the lower limbs to die and drop off the use of the forester's axe is necessary or at least advisable.

Several incipient fires were discovered and put out and settlers and others warned and instructed as to the provisions of the Fire Act. Fire notices were posted throughout and on the principal boundaries of the reserve, and it is satisfactory to note that the settlers are in hearty sympathy with the efforts being made to keep out fire.

FARM FORESTRY.

WIND BREAKS AND SHELTER BELTS.

In a general and abstract way most of our rural land holders are ready to admit the beneficial effect of a due proportion of wooded to cleared land to the welfare of the community. In attempting to prove the correctness of this conclusion, different scientific investigators have taken accurate observations under varying conditions, and have reached entirely different conclusions. Some scientific observers are ready to assert that forests have absolutely no influence on rainfall and prove it by reason of the records of rain gauges in the forest and at its edge. Other observers hold that owing to the very limited range of such records they are inconclusive.

Experience, or in other words, history, has, however, led to the generally accepted belief that a country having a fair proportion of forest is better off than where the woods have been nearly or quite cleared away. It has required an experience extending over a long period of years to reach this conclusion, but at the present time there are few practical men who have given the matter any thought, but are convinced of the correctness of it. While this is the case pretty generally in Ontario, the practical application of the knowledge is lost sight of, and comparatively few farmers take any actual steps to increase their woodland area or keep from deterioration that they already have. While quite ready to admit that not less than a fifth of the total area of an Ontario farm should be under forest, they are content to let their neighbors keep up the proportion, until perhaps the necessity of buying coal to heat their houses awakes them to the fact that they could profitably produce the fuel themselves on the otherwise unproductive parts of their farms.

There is one phase of the forestry question, however, that is forcing itself upon the attention of farmers as of great, direct importance, as the letters of inquiry received by the Bureau of Forestry during the past year indicate, and this is being brought about to a large extent by the uncertain nature of the fall wheat crop.

There is no doubt that in the earlier days there was a much more reliable crop in this Province than at present, and it has been noticed that as the country becomes more cleared the uncertainty of the crop increases. It is also very noticeable that where the wheat field is situated to the south or east of a bush or belt of trees, the crop is better and more even than on other fields of equal fertility but unprotected. Along the margin of the fields next the fence, particularly on the west side of the field where the snow has laid long on the ground, the yield is better than in the centre of the field where the snow was lighter and has quickly melted. The reason of this is not far to seek.

In the southern and highly cultivated part of the Province the forest has been cleared away to such an extent that in some counties not more than five per cent of wood land is left. The absence of trees affords a free scope for the northern and northwestern winds which sweep over that part of the Province with great force, particularly in winter.

THE FUNCTION OF SNOW.

In a country with the climate of Canada the snow is a most important factor in connection with agricultural fertility, as a considerable percentage of the total volume of moisture which falls during the year comes in that form. While it remains congealed it provides the covering which protects those crops that remain in the ground over the winter from the severity of the frost, and later in the year, as it gradually thaws it furnishes the moisture which nourishes the young plants before the spring rains set in. In the absence of a good fall of snow the effects of the keen and long continued frosts are much more severely felt than when the ground is well covered. The even and regular distribution of the snowfall, therefore, is a matter of considerable consequence to the prosperity of the farmer, upon which the success or failure of his yearly operations may largely depend.

Leaving out of consideration the many other aspects of the question it is proposed at present to point out the essential service to agriculture rendered by the forest in securing and retaining the necessary covering of snow for the fields, the evils resulting in this respect from over clearance and the obvious remedy in cases were loss and disaster have resulted.

The extent to which the more thickly settled and highly farmed parts of Ontario have been cleared of their forests has resulted in injurious changes of climate. One of the most noticeable is the drying up of springs and streams, making a continued drought in summer more disastrous than if the subsoil was full of moisture. Where the forests have been cut away to such an extent that the wind has a sweep of many miles without any obstacle to mitigate its force the snow falling upon high or level land is speedily drifted away into hollows or until the range of the wind is broken.

Large tracts are consequently left bare, and if heavy frosts take place any fall-sown crops in the ground are liable to be winter killed, which, had they been protected by sheltering woods to the windward, would have been saved by the retention of the snow above them. If they survive the intensity of the cold the young plants, when the spring arrives, are again exposed to danger from drought. If rain is delayed the absence of the

snow that should have furnished them with nourishment as well as protection leaves the ground dry. On this account fall wheat and other crops which were generally grown successfully in the early days of settlement have been abandoned in many parts of the Province, by reason of the frequency of failures, and when sown very often entail loss and disappointment upon the farmer who undertakes the work of sowing them.

THE LAST SEASON.

The winter 1898-99 was a notably severe season, more especially in the month of February, and a very large proportion of the fall wheat and clover crops was destroyed owing to the exposure to an unusually low degree of frost. The bulletin published in May last by the Provincial Bureau of Industries based upon information furnished by several hundred correspondents resident in all parts of the Province, fully bears out the contention of forestry specialists as to the great advantage of the shelter afforded by growing timber, as a protection from the inclemency of the cold. After noting the widespread injury sustained by the fall wheat crops from the low temperatures of February, the bulletin goes on to say :—

"The situation of the land, and the degree of shelter afforded from wind and frost by its location, appear to have been considerably more influential factors in deciding its suitability for fall wheat growing than the character of the soil. In many cases it has been observed that the partial protection afforded by accumulations of snow near the fences, the rest of the field being bare, has saved wheat plants thus protected. It is worthy also of note that the reports from Algoma, where there was a good covering of snow during the winter, are more favorable than those from the older settled counties."

A number of the correspondents of the Bureau give instructive details bearing on the question, showing that the difference in the condition of crops in the same locality, where some were winter-killed and others survived, was due mainly to the degree of protection afforded by woods, fences, or other obstacles tending to lessen the force of the wind and prevent the drifting of the snow. The following are some of the answers received in reply to the question "What is the general condition of fall wheat?"—the township and county being given after the name of the writer in each instance;

JOHN HENDERSON, Wollaston, Hastings :—

"Where sheltered, good ; where exposed, about half killed out. Injured by the snow being blown from the soil."

A. F. WILSON, Drummond, Lanark :—

"Only a little wheat remains around fences or where it was sheltered."

W.M. DOYLE, Osgoode, Carleton :—

"It was all killed except a little around the fences."

R. A. LEHMANN, Orillia, Simcoe :—

"Centre of fields killed—near rail fences uninjured."

JAMES MARSELIS, Williamsburg, Dundas :—

"Where sheltered, pretty good ; where it was not sheltered, and flat, heavy clay land, badly winter-killed."

W. H. HARVEY, Usborne, Huron :—

“ Protected fields, or those on which the snow was deep, are good.”

B. B. SMART, Sarnia, Lambton :—

“ Where it is protected by a bush or hill or snow, it is the best.”

JAMES DAVIDSON, Yarmouth, Kent :—

“ Only where there was a western shelter is there anything like a full yield.”

COLIN K. CAMPBELL, Harwich, Kent :—

“ The only good fields are those that have been sheltered.”

W. D. STANLEY, Biddulph, Middlesex :—

“ We do not think the kind of soil has had much to do with it this year. On the same kind of soil there are fields of excellent wheat—and fields no good. We think the successive frosts on fields which lay exposed is the chief cause of injury.”

A. J. ROSS, East Williams, Middlesex :—

“ Neither fertility of soil, good cultivation or drainage made much, if any, difference. Indeed in many cases the earliest and strongest suffered most. The only places in which it escaped is where it was sheltered from the wind on the west and southwest by the bush. In these few places it was excellent.

D. HURLEY, Asphodel, Peterborough :—

“ Nothing left except a strip around fences.”

J. D. DRUMMOND, Otanabee, Peterborough :—

“ What was exposed to the west and north on any soil is dead. Any that was sheltered by woods on the west and north, keeping the snow on, is good.”

ARTHUR WELLER, Scott, Ontario :—

“ The only places of any account are where it is well sheltered.”

F. BIRDSALL, Asphodel, Peterborough :—

“ About 75 per cent. is dead. The only fall wheat there is, is on low-lying land or where sheltered by trees or fences.”

WALTER RIDDELL, Hamilton, Northumberland :—

“ Shelter and situation seem to have more effect than soil.”

THOMAS SYER, Manvers, Durham :—

“ There is a little around the fences and where snow stayed on all winter, the rest is completely killed.”

D. FOTHERINGHAM, South York, York :—

“ Do not see much difference on different soils, but notice where wheat was sown among corn roots it seems to have done better than where nothing held the snow.”

R. W. PHILLIPS, King, York :—

“ Wherever it was covered by snow or sheltered it has come out very good.”

CHARLES RANNIE, Nassagaweya, Halton :—

“ It has suffered most where exposed to the west or north. Fields that were partly sheltered and covered by snow during the winter took fairly well.”

THOMAS ELLIOTT, Esquesing, Halton :—

" Exposed fields of any kind of soil badly killed. Sheltered fields in good condition."

CHARLES TRIM, Mornington, Perth :—

" It is poor on all conditions of the various soils. Injured by ice and frost. Around the fences where the snow laid heavy the wheat is pretty good."

ALFRED BURRILL, Onandaga, Brant :—

" Fields that were exposed to the wind or where snow did not collect to any extent suffered much by frost. Didn't matter what kind of soil."

ALEX. RITCHIE, Stormington, Frontenac :—

" Nearly all winter-killed ; an odd field where protected, is not killed."

T. G. TAYLOR, Hillier, Prince Edward :—

" Much of the fall wheat came through in good shape, especially where sufficiently sheltered for the snow to lodge and remain."

JOHN B. STONE, Percy, Northumberland :—

" The winter wheat has been killed the past winter by the fields being bare and the continual freezing. Wherever the field was protected on the north and west the wheat was fine."

In reply to the question, " What is the condition of the clover crop ? " the general effect of the answers was that it had suffered from the same causes as had injured the wheat. Many of the correspondents also pointed out that where the ground was sheltered in any way and a good covering of snow retained, the crop was saved.

Many of the correspondents in their returns to the Bureau give observations of a more discursive and general character than are involved in the mere answers to the questions submitted, and it is encouraging to note that some of these in dealing with the effects of the cold upon fall crops evince an intelligent appreciation of the cause of unfavorable climatic changes and the remedy necessary to counteract them. E. C. Perry, Gainsborough, Lincoln, writes :—" The winters seem to have grown more severe as the country is cleared. This district is more subject to very high winds, which are very destructive.

JAMES WATSON, Moore, Lambton, says :—The unrestrained sweep of the cold winds with the thermometer down at about 20 degrees below zero for a week—since the country is denuded of timber—have made havoc of winter wheat and clover and taught the farmers a lesson that windbreaks for shelter are now required. Even the rail fences were a protection for wheat for a considerable distance in the fields. Hedges and windbreaks are now wanted. The south-west winds, where there was no shelter in this locality, seemed to injure wheat more than the north winds."

" I think," writes A. Dawson, Oakland, Brant, " that winter wheat was injured more the past winter by wind than anything else, because wherever a field had the protection of a strip of timber, the wheat has come out all right. The remedy appears simple enough. If farmers would go to the very small expense of planting evergreens on the west side of their fields they would form the best possible windbreak, as well as add very largely to the value of the property. The loss the present season would more than pay the cost of trees and planting many times over."

WORTH \$100 A YEAR.

Mr. Henry Wilson, of Caledon East, is one of the farmers who years ago recognized the advantage of windbreaks, and in reply to inquiries from the Bureau of Forestry, gives his experience as follows :—

" Ten years ago I planted a wind-break four rods wide, consisting of one row of cedars four feet apart, the other trees consisting of maples planted in rows eight feet apart and a foot distant in the rows. The maples are twenty-five feet high without cultivation, and the cedars twenty feet. Had they been cultivated while young, they would have made much faster growth.

" I also planted a pine wind-break that is now twenty years old, and some of the trees are twenty inches in diameter, but for my locality the cedars with the maples answer the purpose splendidly.

" I consider my windbreaks of great value to my farm. I consider it was worth \$100 this year in protecting my wheat field alone, and clover in the adjoining field stood the winter remarkably well."

Mr. Wilson adds that from his own experience he prefers planting cedars in the spring and maples in the fall. He states that he planted over a mile of maple shade trees in the fall, and all lived.

The dearly bought experience of the past winter and the loss of so large a proportion of the crops dependent upon adequate protection from frost, ought to convince farmers resident in exposed localities of the utility of windbreaks.

The value of a shelter belt of trees is in proportion to its depth and height, and in view of the value of many kinds of timber, it would pay the farmer in many cases to devote a strip of considerable breadth in the quarter most exposed, to a plantation of close growth. But if this is out of the question, a double row of trees, those in one row being placed at equal distance between the two nearest trees in the other, will be found to afford effective protection, especially if evergreens are used for one row.

Trees grown in lines will not afford timber of value except as fuel, as they branch out too near the ground ; but if hard maples are set out, alternated with spruce or pine, they will in time prove a steady source of income from their yield of sugar. There is no better tree for shelter purposes, and it has the advantage of being easily procurable in large quantities, either in the seedling or sapling stage.

PLANT SMALL SEEDLINGS.

A mistake which many farmers make in setting out trees either for shade and ornamental purposes, or as shelter belts, is in transplanting large saplings instead of taking small trees about a foot in height. In the first place it is much more difficult to transplant a sapling successfully, especially one taken from the forest, because a great deal of the root is usually cut or torn away in getting it up, and, if it lives at all, it takes a long time to recover its vigor. A seedling, on the contrary, is easily moved with the roots almost entire, and if well cared for speedily accustoms itself to its new surroundings and

makes rapid progress, so that in a few years it is likely to overtop the larger tree which has been retarded in its growth by the shock its organization received in moving, and has only just managed to live.

Again, the selection of seedlings in place of saplings effects a great saving of time and labor. The farmer is often deterred from tree planting by the idea that to do anything worth while in this direction would involve more time than he can spare during the busy season. To search for, dig up and replant a hundred or so trees of several feet in height is a serious undertaking, and consequently likely to be indefinitely postponed. But if instead of looking for trees of this size he would content himself with the small seedlings, a thick undergrowth of which may be found in or near most pieces of bush land, the job would not look nearly so formidable, as a dozen of the latter could be transplanted more quickly than one of a larger growth. The chances for life of a transplanted tree are much greater if it is removed when quite young, and if in setting out forest trees to beautify or protect the farm this were borne in mind, many who undertake tree planting with comparatively poor success would frequently save themselves disappointment and fruitless labor.

It should be borne in mind that in plantations of this sort the weeds and grass should be carefully kept down around the trees for the first few years, or until the shade from the trees will accomplish the purpose.

In case the trees for transplanting cannot be procured from the bush in the vicinity, they can be procured at reasonable prices from most of the leading nurserymen.

STREET TREE PLANTING.

During the past year the Bureau of Forestry has had considerable correspondence regarding the systematic planting of trees on streets in towns, villages and cities. In view of the increasing interest shown in this direction it has been thought desirable to add a few suggestions as to the most suitable varieties of trees to plant for this purpose, and the methods of planting.

One serious defect in past efforts at improvement in this direction throughout the Province, has been in the lack of design or plan in the selection and location of the trees. It is not unusual to see several partial rows of several different sorts of trees on one short street. One householder prefers his trees close to the house, while his neighbor may think the trees in front of his place would be better next the curb, and while the first man was a lover of maple the other may select horse chestnut, ash or elm. The result as may be imagined is frequently a badly arranged arboretum rather than a beautifully shaded avenue as it might have been had there been some degree of uniformity or some well defined system in the planting.

The best results in street planting can only be obtained by joint action and it would be best in most cases to have the work done under the direction of the municipality as is the case in several places now. In many parts of the United States "Village Improve-

ment Societies" have taken the beautifying of the town in hand and by encouraging and directing the improvement of the residential streets by planting trees and vines, and in other ways have done very effective work. These associations usually receive a grant from the municipality, receive private subscriptions and take charge of the actual planting, the property owners contributing a fixed proportion of the cost of planting opposite their own premises. In several Ontario towns the municipal authorities have undertaken this work, appointing a tree inspector or park commissioner under whose direction all street trees must be planted, and defraying the cost partly from general revenues, partly from a local improvement tax. It is only in this way that any general effect may be obtained and in no better way can money be expended by the municipality than this. It adds to the attractiveness of the place to strangers, makes it healthier and elevates the moral tone of the community.

Tree planting should not be confined to the wealthy residential streets. Trees are more needed in the poorer quarters where the population is crowded and the presence of the shade will inculcate in the residents more pride in their surroundings, so that the district will be beautified in many ways.

WHAT TREES TO PLANT.

This is a very wide question for there are so many beautiful trees that will thrive in Ontario that it is difficult to decide on the best. Among the most popular trees to be seen in various towns, may be mentioned, the hard or sugar maple, American elm, tulip tree, linden or basswood, soft maple, horse chestnut, mountain ash, Norway maple, ash-leaved or Manitoba maple, ash, balsam, poplar, birch and oak. In most cases the evergreens are confined to hedges or planted on lawns as ornamental trees, very seldom are they planted in rows on the streets.

Of the merits of these different trees for street planting there are nearly as many different opinions as there are varieties of trees. All things considered however, the writer is decidedly of the opinion that our national tree, the maple, and the elm are by all odds the best trees to plant on town or city streets. Where the streets are narrow however, the elm may be found unsuitable owing to its great spread of branches. For the same reasons where the street trees have to be planted near the houses, elms, when they have reached their growth would be too close. On a wide street, however, where the trees are to be planted outside the boulevard, the elm is particularly suitable and no finer avenue can be seen than one shaded by this tree.

The maple as a shade tree, is to many people quite as beautiful as the elm, but of a different shape. If allowed to grow without much pruning the hard maple assumes a symmetrical shape and makes a beautiful shade tree, while in the autumn no other tree can compare with it. The foliage, without being so close as to kill the grass under the tree by dense shade, is at the same time strong and even. Both maples and elms are hardy, both grow rapidly and are easily obtainable.

The horse chestnut is in many places a popular shade tree. It is very hardy, has a round, compact crown, but creates a very dense shade and causes a great deal of litter.

The leaves are so heavy that when they fall off they do not blow away but remain on the sidewalk unless swept off and the walks are stained by the tannin of the leaves. The husks of the nuts also add to the litter, and boys are apt to disfigure the trees in knocking the nuts off.

A very handsome tree but little used is the linden or basswood. The balsam poplar or "Balm of Gilead" is a very fast growing tree but the cottony covering of its seeds is a great nuisance and it is losing ground in popular favor.

Having decided what kind of tree to plant, it is very important to see that the trees selected are in good condition. The bark should not be injured, the root system should be full and not allowed to get dry, and the tree should not be too large.

SPRING VS. FALL PLANTING.

The question of when to plant is one that has been a matter of dispute for many years. The writer favors fall planting for most trees, although if the season is a wet one spring planting may be very successful. Having decided upon the sorts of trees to be planted, some general ideas on the subject of planting may be of interest and value. In planting for shade or ornament it is well to remember that trees grow, and to keep them far enough away from the house if possible, so that when they are grown they will not prevent the sun from reaching the windows. It is becoming popular in many places to place the sidewalk next the roadway, and this necessitates placing the trees inside the walk. In the case of narrow streets, where the houses are placed near the street line, it is questionable if it would not be well to leave enough space, say four feet, between the sidewalk and the curb for the trees. Care should be taken, however, that they are not so near the curb that they can be reached by the wagon hubs.

HOW TO PLANT.

Trees to be selected for planting should not be too tall. The long "whipstock" saplings with a small tuft of leaves at the top are not good stock for shade trees. They are easily injured by the wind, and greatly set back by transplanting. Better to have saplings of not more than four or five feet high with more limbs and roots. Care should be taken that the root system is ample for the tops. If the roots are broken or damaged it will be wise to cut off the broken parts with a sharp knife, and when this is done the limbs should be shortened to match.

Mr. John C. Hall, City Forester of Philadelphia, gives his practice in planting as follows:—

"The rule adopted four years ago, and which has proved successful, is this: On an unpaved sidewalk, where nothing obstructs, the hole for the tree should be dug three feet square and three feet deep, and refilled with rich earth free from all deleterious substances. On a paved sidewalk, where the aperture is about two feet only, excavate till at least a full-sized cartload of rich earth can be deposited in the hole made, the depth being considered rather more than the width in this case.

"Care must be taken to firm the earth as it is filled in, and in the performance of this operation the human foot is far preferable to the rammer; the elastic tread of the former produces a better firming effect, and excludes the air far better than the latter. In planting the tree carefully observe the surface mark on the stem, and avoid planting too deep. My rule is to raise the tree one and a half inches above the mark of the nursery ground line, so that when the ground sinks into its normal condition, which it invariably will, however well firmed or rammed, the tree will then be at its proper depth.

"I do not in all cases agree with the practice of puddling the roots of trees immediately prior to planting, but prefer giving a liberal supply of water at the close of firming. When the water has disappeared the soil should be filled in slightly above the surface line and leveled off without further treading or firming, and if the weather be dry the earth should be kept moist by an occasional watering. This applies to spring planting only, for rarely, if ever, is it necessary to water trees that are planted in the fall season."

When the trees are properly planted they have a great many enemies to contend with, not the least being the small boy, who loves to swing around them or cut them with his pocket knife. Many varieties of tree guards have been designed, but the most satisfactory one is now said to be a piece of wire netting wrapped round the trunk, leaving it loose enough to allow for the growth of the first two years. This is cheap and effective.

DISTANCE.

The proper distance apart for street trees depends largely on the kind of trees to be used. When grown to a good size the elm has a greater spread of branches than the maple, which latter requires more room than the horse chestnut. A plan sometimes followed is to plant alternate maples and elms about twenty feet apart, taking out the maples when the branches begin to touch those of the adjoining tree. This would leave the big elms about forty feet apart.

If maples alone are planted they might be placed fifteen feet apart, which would give the mature trees thirty feet of space. Where the alternate trees are to be taken out, they should be removed before the branches interlock or the shape of the crown of the remaining trees will be spoiled.

The importance of well shaded streets can scarcely be overestimated, and it requires only concerted action on the part of a few public spirited citizens in each town to effect a great deal throughout Ontario in this direction.

TENT CATERPILLARS.

By W. Brodie.

Few insects have attracted more attention or figured so largely in economic entomological literature and none have done greater injury to fruit and forest trees, than the two Ontario species of tent caterpillars, *Clisiocampa sylvatica* and *Clisiocampa americana*. Both species are found in our forests. The larvae of the former feed on the leaves of hardwood trees, the larvae of the latter on the leaves of native cherry trees, the black

cherry,—*Prunus serotina*, a common forest tree, bird cherry—*Prunus pennsylvanica*, and choke cherry—*Prunus virginiana*, these two growing in neglected fields, in open thickets and along river banks. But although the larvae seem to prefer the leaves of these three native cherries to even the apple tree, I have fed them on the leaves of many rosaceous plants, and no doubt they will thrive on the leaves of most plants in the rose family.

It has been satisfactorily shown that these wild cherry trees afford the normal food and habitat of *C. americana*, where the larvae feed unobserved until near the maximum period when the imagoes migrate and oviposit on the slender twigs of orchard trees, and in the following spring swarms of young larvae appear and their work of destruction goes on.

The remarkable fact of the irregular periodicity of these two species of destructive insects is well known to all carefull observers. In 1856-1858 both species had attained a numerical maximum and were conspicuously destructive to forest trees and to orchards in extensive isolated areas, generally throughout the Province, and since then there have been several alternations and three well defined periods of maximum development.

In many of the leaf-eating insects there is a firmly established and unvarying relation between them and the parasites which keep them in check, so that the leaf-eaters are never very numerous nor ever altogether absent. But there are other leaf-eating insects in which the checking parasitic relations are very complicated and not at all uniform, and among these are the most destructive species.

It would seem that for some cause—not very well understood—the parasites are few or are entirely absent for a few years, thus giving the leaf-eating species an opportunity to go on at their normal rate of increase. But migrant parasites come in from sections where they are numerous, it may be but one, it may be several species, and these, having a greater ratio of increase than the leaf-eating species soon bring them down to zero, or even to extermination.

In June, 1898, a large collection of the larvae of *C. americana* was made from several localities within a short distance of Toronto, which had fed on native wild cherry trees, and it was found that a little over seventeen per cent. were parasitized. Four species of parasites were reared from this lot. Many of the *C. americana* larvae contained five *Tachina* parasites. This corresponds very closely with investigations made on the larvae of *C. Sylvatica* by Mr. F. Morris, M.A., at Perth, and by Miss Bessie Cockburn at Huntsville.

On June 10th, 1899, a collection of 2,000 larvae of *C. americana* was made near Toronto, which had fed on native wild cherry trees. From this date until July 1st, '99, three species of *Tachina* (11:7) species of hymenopterous parasites emerged. And it was found that thirty-seven per cent. of the leaf eaters were parasitized. Two or more species of parasites do not emerge until the following spring. All these results agree very closely with the results of investigations by John McArthur, Rosedale, by Mr. James Brodie, Bethesda, and by Miss B. Cockburn, Bracebridge.

From the evident increase of the parasites it is almost certain that another season will bring either of the two species down to zero, wherever they have been at a maximum this season.

The only element of doubt is in our ignorance of the life history of the parasites which emerge in June, as they will not find tent caterpillar hosts until the following April. If they find other insect hosts and give out a second brood late in the fall or early the following spring, this would favor their increase, but if they have to live through the summer and winter in the imago form their numbers may be greatly lessened.

A few of our native birds feed on tent caterpillar larvae, a small percentage, perhaps one-half of one per cent. may be destroyed in this way, but anyway this is of doubtful utility or rather in favor of the leaf-eater, for experienced observers agree that insect parasitism is the only certain and economic natural power to keep plant-eating species in check, and to destroy them while in the larvae form is the certain way to check the natural increase of parasites.

A HISTORY OF CROWN TIMBER REGULATIONS.

FROM THE DATE OF THE FRENCH OCCUPATION TO THE PRESENT TIME.

Compiled with the Assistance of Mr. Aubrey White, Assistant Commissioner of Crown Lands.

The Ontario system of dealing with the timber upon Crown Lands, as it exists today, is far in advance of any other system of regulating the disposal of public timber resources on this Continent. Those in charge of it from time to time have made greater efforts to preserve for public uses as large a measure as possible of the country's natural wealth than have been attempted elsewhere. Though, owing to the difference of local conditions, we are, as yet, far from the perfected forestry system of Europe, the result of the increased attention bestowed upon the question of forest preservation has been a gradual development in the direction of modified forestry methods, calculated to secure the perpetuation of the woodlands with the least possible disturbance of existing interests. The latest legislation providing for the establishment of forest reserves is a further step to the same end, designed not only to secure for the people the largest possible present return from the timbered area of the Crown domain, but to secure that revenue in perpetuity. In order to a thorough understanding of the present system as it has been evolved by means of numerous modifications and advances from the point of beginning, with a view to possible suggestions for such alterations as may more efficiently subserve the ends in view, it is necessary to study its growth and development from the earliest days of Canadian colonization to the present time. Moreover, to obtain a complete grasp of the subject in all its bearings it is requisite to consider it in connection with the various systems of Crown Land management which have from time to time prevailed. The two branches of administration are so intimately connected that it is hardly possible to treat intelligently of one of them without largely adverting to the other. In fact, during the French Regime the timber

The French Regime. resources were regarded as of comparatively little importance and furnished such a small part of the commerce, or the interests of the colony, that they were treated merely as incidental to the general land policy of the Government,

and the relations between the Crown, the Seignior and the habitant under the feudal tenure which then prevailed. Apart from the adjustment of the respective rights and privileges of these parties in the timber upon the lands granted for settlement, there can hardly be said to have been any system of timber regulations in existence. The aim of the French in colonizing the banks of the St. Lawrence was to reproduce, as far as possible, in spirit and in form the political and social institutions of France in their New World Empire. They faithfully copied those survivals of the feudal system, based upon the needs and conditions of a bygone age, which, already out of harmony with the growing spirit of industrial and commercial development at home, were doubly unsuited to the environments of a new country. The principal characteristic of the system was the broad and clear-cut distinction between classes recognized by law and embodied in the system under which

The Seigniors. the lands of the colony were distributed and held. Large areas were allotted to the Seigniors, who were the only class to hold their titles directly from the Crown, and received their grants on the express condition of sub-dividing them among tenants or censitaires. The conditions upon which the latter obtained their lands not only involved the payment of rents, but the performance of a number of other duties and obligations, not always exactly defined, and numerous reservations and conditions affecting the land, some of which were in accordance with the terms of the original grant, while others appear to have been arbitrary or in accord with ancient

feudal custom. The Seignior was invested with privileges of a much more extensive character than appertain to the landlord under the British law. Among others the authority of administering justice among his dependents.

The following extract from a grant made in 1683 by the Governor and Intendant of Quebec embodies the conditions upon which the Seignories were usually granted.

"We, in virtue of the power intrusted to us by His M^{aj}esty, and in consideration of the different settlements which the said Sieur de la Valliere and the A Seignorial Sieur de la Poterie, his father, have long since made in this country, and in Grant.

Sieur de la Valliere given, granted, and conceded and by these presents do give, grant and concede the above described tract of land; to have and to hold the same himself, his heirs and assigns forever, under the title of fief, Seigniory, high, middle and low justice (*haut, moyen et basse justice*), and also the right of hunting and fishing throughout the extent of the said tract of land; subject to the condition of fealty and homage (*foi et hommage*) which the said Sieur de la Valliere, his said heirs and assigns, shall be held to perform at the Castle of St. Louis in Quebec, of which he shall hold under the customary rights and dues agreeably to the custom of Paris, which shall be followed in this respect provisionally and until otherwise ordained by His Majesty; and that the appeals from the judge of the said place shall lie before the Lieutenant-General of Three Rivers; and also that he shall keep house and home (*feu et lieu*) and cause the same to be kept by his tenants on the concessions which he may grant them, in default whereof he shall re-enter *pleno jure* into the possession of the said lands, that the said Sieur de la Valliere shall preserve and cause to be preserved by his tenants within

Oak Timber Reserved. the limits of the said tract of land, the oak timber fit for the building of vessels; and that he shall give immediate notice to the King or to us, of

the mines, ores, or minerals, if any be found therein; that he shall have and cause to be left all necessary roadways and passages; that he shall cause the said tract of land to be cleared and inhabited, and furnished with buildings and cattle within two years from this date, in default whereof the present concession shall be null and void; the whole under the pleasure of His Majesty, by whom he shall be held to have these presents confirmed."

It will be seen that this document comprises a reservation of the oak timber on the domain adapted for shipbuilding. This condition was general if not universal, in all the grants made by the French Crown. The only aspect of the question in which the Government took any concern was the maintenance of an ample supply of timber for the Royal Navy. Some later grants, in addition to oak, reserved timber for masts and spars, presumably pine. Apart from this object, the disposal made of those pine forests, which in modern estimation form so important a feature of national wealth, by either Seignior or habitant, seems to have been regarded with indifference, and no idea was apparently entertained of holding them as a source of revenue, or a valuable possession of the government, irrespective of the land. The old records show that the reservation of oak timber in the grants of Seignories was by no means a dead letter. In 1731 a permission was issued to cut oak timber for a war vessel in the following terms:

"It is permitted to Sieur Abbe le Page to cut in the seignories of Berthier and Dautray two thousand cubic feet of oak wood, following the plans and models which we have caused to be forwarded to serve for the construction of war vessels of Permit to cut oak. five hundred tons, which the King designs to have constructed in Quebec, which timber he shall conduct in rafts (*cageaux*) in the River St. Charles before the palace of this city to be there received and inspected in the customary manner.

"The present permission is given in conformity to the reservation which His Majesty has made of this wood for his service in the concession of lands and seignories in this colony.

" We command the Seigniors, the captains and coast officials and all other to whom it may appertain, to aid, and cause to be aided, if it is necessary, the said Sieur le Page in the said exploitation, in return for reasonable wages to those whom he shall employ in the aforesaid exploitation.

"Done at Quebec, the 5th of October, 1731.

"Note.—Similar permission has been extended to Sieur de Bleury, in the Seigniory of Longueuil which abuts on the said Seigneurie of Chambly, and for three leagues extending along the River of Sorel on both sides past the said Seigniory of Chambly and descending the said river of Sorel."

(Signed) HOCQUART.

In 1740 the Governor, having been informed that a considerable quantity of oak suitable for the construction of the King's vessels had been found at Isle Jésus in the Seigniories of the Lake of Two Mountains, and in Isle Bizard, issued an ordinance expressly forbidding the proprietors "of whatever quality or conditions they may be," cutting any oak until it had been inspected and such of the trees that were found adapted for naval construction marked and retained. The penalty of any contravention of this ordinance was to be confiscation of the timber and a fine of ten livres for each tree destroyed.

The reservation of all *oak* trees, as in the case of the present reservation of *white pine* in patents granted to settlers sometimes created difficulties in regard to the clearance of the land. Obviously if the reserved trees grew in any considerable num-

Early Settlers ber on the habitant's grant, he could not fulfil simultaneously his undertaking to clear the land and the stipulations as to preserving the timber.

Grievances A case arising out of a dilemma of this sort in 1722 is on record, when

Michael Laliberte, habitant of Isles Bouchard appealed to the Governor against his feudal superior, Sieur Desjordy. Laliberte in extending his clearing cut down some oaks, and instead of following what appears to have been the usual practice of burning them on the land, had them sawn into boards. This the Seignior claimed that he had no right to do under his title deed; whereby oaks were expressly reserved, and by way of penalty confiscated 36 minots of wheat due to Laliberte under an agreement where by the latter was cultivating land of Desjordy's on shares. The Governor decided that as the reservation of oaks in the deed to Laliberte was made in consequence of a clause in the original deed of the Seigniory obliging the proprietor to cause his tenants to reserve the oak timber for the royal navy, the timber could not

The pro- perty of the Crown. in any case belong to the Seignior; furthermore, that as it was desirable that the land should be improved, which could not be done without cutting down the trees, it was for the public benefit that valuable timber so

cut down should be made into boards or cordwood, rather than burned on the spot, as the money so realized would help the habitants to establish themselves. Accordingly Sieur Desjordy was prohibited from further troubling his tenants when getting out and disposing of oak timber in future in the process of extending their clearings. In cases where the party cut the timber down solely to sell it without afterwards clearing the land, he was permitted to seize the timber and bring the case before the Governor. It appears from this decision that even at that comparatively early date the powers of a Seignior, however extensive in theory, were nevertheless in course of being very considerably modified in practice.

Complaints as to the trespasses made by the habitants in cutting wood upon ungranted lands or property not belonging to them were of frequent occurrence, and **Trespass.** numerous ordinances were issued from time to time in prohibition of the practice. The following ordinance indicates the difficulties experienced by the authorities at an early date in dealing with such cases :

"Upon the complaints which have been made to us by many inhabitants of this city, proprietors of the lands of Cote Saint Jean and neighborhood, that some individual

away from the said lands cut down and carry away, daily, wood for burning, against and in spite of the prohibitions which have been made by many ordinances heretofore given, by which it is forbidden as well to the said inhabitants of this city as to those of the said quarter, to cut down or take away any wood upon the lands of the other inhabitants on penalty of fifty livres fine, and of confiscation of the trucks and horses which shall be found laden with the said wood, which it is necessary to consider in reiterating the said prohibitions.

" We most expressly prohibit and forbid all persons to cut down or carry away any wood on the lands of which they are not proprietors, without previously having obtained the permission of those to whom they belong, on penalty against each of those contravening of fifty livres fine, and of confiscation of the trucks and horses which shall have served to transport the said wood, the said confiscation and fine to be applicable half to the proprietor of the lands upon which the wood shall be taken and the other half to the Hotel Dieu of this City.

" And the present ordinance shall be read, published and affixed at the close of the grand mass of this said city, and of that of the parish of Notre Dame de Foy, to the end that the inhabitants of this said city and those of the neighborhood shall not be able to pretend cause of ignorance of it.

" We command, etc.

" (Signed)

MICHAEL BEGON.

" Done at Quebec the 27th of December, 1713."

A similar prohibition was issued in 1747 at the suit of the Ursuline Nuns of Quebec, proprietors of the Seigniory of Sainte Croix, whose inhabitants were charged with cutting wood upon lands not included in their grants, " which is a considerable injury to them, because the said lands being impoverished no habitant wishes to take them to establish himself there." A penalty of ten livres was accordingly proclaimed for all contraventions of the ordinance, to go to the Fabrique of the parish. Another question which arose at an early day in the history of the province concerned the furnishing of supplies of timber for bridge building. The following ordinance dealing with the subject seems to embody the germs of our modern much criticized local improvement system :

" Michel Begon, Intendant of Justice, police and finances in Canada,
Local Im- Acadia, the Island of Newfoundland and other northern French countries.
provement " It being necessary to prevent the disputes which may arise on the
Laws. subject of furnishing the timber necessary for the construction of the bridges
over the rivers which pass through the main roads, we ordain that all the timber necessary for the construction of the said bridges shall be taken from the lands nearest the said rivers, considering that the proprietors of these lands receiving the accommodation of these bridges and these rivers ought also to sustain the expense of them.

" We enjoin upon all the inhabitants of the parish where the said bridges shall be made to labor in cutting down all the timber which shall be necessary for this work, and to deliver it upon the spot.

" We command the captain of the district to attend to it.

" (Signed)

BEGON.

" Done at Quebec 6th March, 1713."

There appears to have been no reservation of timber in the old grants
Oak Re- for military purposes, or any other public use than naval construction. By
served for an ordinance of the Superior Council, dated 10th July, 1664, compensation
Navy Only. is directed to be made by the Government to Sieur Poyer for timber taken
from his Seigniory for the construction of casemates, for which he was
ordered to be paid the sum of twenty-five livres, tournois. But during the later years of
the French regime the tendency was to extend the restrictions under which land was
granted, with a view to providing for other public requirements from the timber existing
on the grants without having to make compensation. A comprehensive report on the

subject of the Seigniorial tenures was made to the Legislative Council of Quebec by Hon. J. Williams, Solicitor-General of the Province, on the 5th October, 1790. He enumerates the reserves and conditions customary in the ordinary grants, the only one relating to timber being that already referred to, viz : "That the grantee should conserve all the oak timber growing on his domain, and cause all the oak timber suitable for the construction of the King's ships to be preserved by his feudatories and tenants." The more modern grants, the report goes on to say, comprise the same reserves and conditions, but contain yet other stipulations. One of these is as follows :

"That provided the king has need of any part of the lands granted for the construction of forts, batteries, armouries, magazines or other public works, he Army Reserves. shall have the liberty to take such portion, together with the necessary trees and timber, and fuel for the supply of the garrison in the area of the granted lands without being held or obliged to make any compensation for it to the grantee. In many of the later grants the king reserves to himself the right to take oak timber, masts and yards, and all other timber fit for the construction and equipment of his vessels without making any compensation for it. And in one grant the king reserves for himself the red pine to make mouldings (*du godron*)."

The Seigniors, acting no doubt under the influence of Old World traditions, such as frequently maintain themselves longer in an isolated colony than in their original birthplace, appear to have exacted from their tenants many conditions which were not strictly legal. They inserted extensive reservations in the title deeds which were not warranted by the conditions on which they were held from the Crown. The relations

Landlord and Tenant. between the Seigniors and their tenants, as the system fell into desuetude, continued to be a vexed question in Lower Canada long after the cession of Canada to the British, and were not finally settled until the passing of the "Seigniorial Act of 1854," which provided for the extinguishment by compensation of the somewhat shadowy and indeterminate vestiges of the Seigniorial title to lands, the occupants of which had practically become the owners. By this enactment a special court was constituted to ascertain, as far as possible, in just what particulars the claim of the Seigniors for compensation for the relinquishment of all their privileges was legally valid. Among the numerous questions submitted to this tribunal by Hon. Lewis Thomas Drummond, Attorney-General for Lower Canada, in order to arrive at a basis for fixing the amount of compensation to be awarded was the following, relating among other matters to reservations of timber made in the grants by Seigniors to inhabitants other than those specified in the original grants from the Crown.

Seigniorial Tenure. "In various deeds of grant of lands held *en roture*, covenants are found, tending to establish in favor of the Seignior, reservations similar or analogous to the following :—

1. A reservation of the timber for the building of the manor-house, mill and churches without indemnity.
2. A reservation of firewood for the use of the Seignior.
3. A reservation of all marketable timber.

Were these reservations, or any, and which of them, legally made, and do they give the Seignior a right to be indemnified for the suppression of them to be effected by the said Seigniorial Act ?

The summary of the judgment of the Court upon these points was as follows :—

"All reserves must be held to be legal the object of which was the obligation upon the tenant (*censitaire*) to allow the accomplishment by the Seignior on his part, of the obligations of that nature stipulated by the King in the grant of the fief.

Illegal Reservations. "That the following reservations or others, analogous to them, were illegal and do not give to the Seignior a right to indemnity by reason of their suppression. Art. 1—A reservation of firewood for the use of the Seignior. Art. 2—A reservation of all marketable timber. * * *

"The reservation of timber for the construction of churches without indemnity, and the reservation of the right of fishing and hunting on the lands conceded are illegal and give no right to indemnity.

"The question being put 'is the reservation of timber for the building of the manor-house and mills without indemnity legal, and does it give to the Seignior a right to indemnity for its suppression?' the Court is equally divided."

Briefly then, the main features of the system of timber administration at the close of the period of French rule in Canada were the reservation by the Government of timber adapted for naval and military purposes, and the further customary, but not strictly legal, reservations by the Seigniors, of timber for various purposes out of the forest products of the holdings leased to their habitants, with frequent interventions on the part of the authorities to prevent the unauthorized stripping of lands of their timber by those not entitled to it, without any attempt to make the timber resources tributary to the public revenue.

THE BRITISH OCCUPATION

When the British took possession of the colony in 1763 very elaborate instructions were furnished to the first Governor, James Murray, as to his administration of the new acquisition. The first thought of the Home Government in relation to the forests of Canada was the necessity of preserving the timber for the same purposes which were regarded as of such paramount importance by the French. They appear to have contemplated a more general and systematic method of accomplishing this object than the mere reservation of the timber in the deeds, as will be seen from the following extracts from Governor Murray's instructions dated Dec. 7th, 1763.

" You are therefore to lay out townships of convenient size and extent in such places as you, in your discretion, shall judge most proper; and it is our will and pleasure, that each township do consist of about 20,000 acres, having, as far as may be, natural boundaries extending up into the country and comprehending a necessary part of the river St. Lawrence where it can conveniently be had.

" And you are also to reserve to us proper quantities of land in each township for the following purposes, viz : For erecting fortifications and barracks where necessary, or other military or naval services, and more particularly for the growth of the first and production of naval timber if there are any woodlands fit for that Forest Reserves. purpose.

" And whereas, it has been further represented to us that a great part of the country in the neighborhood of Lake Champlain, and between Lake Champlain and the River St. Lawrence abounds with woods, producing trees fit for masting for our Royal Navy and other useful and necessary timber for our navy constructions; you are therefore expressly directed and required to cause such parts of the said country, or any other within your government that shall appear on survey to abound with such trees and shall be convenient for water carriage, to be reserved to us and to use your utmost endeavor to prevent any waste being committed upon the strict said tracts by punishing in due course of law any persons who shall cut down or destroy any trees growing thereon, and you are to consider and advise with our council whether some regulation that shall prevent any sawmills whatever from being erected within your government without a license from you or the Commander-in-Chief of our said province for the time being, may not be a means of preventing all waste and destruction in such tracts of land as shall be reserved to us for the purposes aforesaid."

It is to be regretted that these instructions as regards the maintenance of the timber reserves were not carried into effect, the new rulers no doubt finding many matters of a more urgent character on their hands, and possibly concluding as observation revealed the vastness of the supply, that solicitude for the future was superfluous. Had the farsighted policy outlined by the British Government been followed, and a timber reserve maintained in each township in addition to such extensive reservations of pine-growing lands as are indicated in this document, with the adoption of precautionary measures

against waste and destruction, the agricultural fertility of large overcleared tracts now suffering from greatly diminished productiveness would have been retained, and extensive areas now rendered unproductive by being denuded of their timber, would still contribute to our national prosperity.

Pine Lands Reserved. Twelve years afterward in 1775 the same views were still entertained by the British authorities. Again, the setting apart of pine-bearing lands was enjoined, Guy Carleton, "Captain General and Governor-in-Chief of the Province of Quebec and all territories dependent thereon" receiving among other instructions, the following in relation to pine bearing lands.

"It is our will and pleasure, however, that no grant be made of any lands on which there is any considerable growth of white pines fit for masting for our Royal Navy, and which lie convenient for water carriage, but that you do cause all such lands to be set apart for our use, and proper Regulations made, and Penalties inflicted to prevent trespasses on such tracts, and the cutting down and destroying the trees growing thereon."

The Rules and Regulations for the conduct of the Land Office Department, issued in Quebec under date of February 17th, 1789, were based upon the same principle of preserving, in the hands of the Crown, any tracts of land of a specially valuable character either by reason of their location or their natural products, and confining the grants made to individuals to ordinary agricultural lands. The following is the text of the regulations dealing with the subject:—

Minerals and Water Powers Reserved. "And to prevent individuals from monopolizing such spots as contain mines, minerals, fossils, and conveniences for mills and other singular advantages of a common and public nature, to the prejudice of the general interest of the settlers, the Surveyor General and his agents or Deputy Surveyors in the different districts, shall confine themselves in the locations to be made by them upon certificates of the respective boards to such lands only as are fit for the common purposes of husbandry, and they shall reserve all other spots aforementioned together with all such as may be fit and useful for ports and harbors or works of defence, or such as contain valuable timber for ship-building or other purposes, conveniently situated for water carriage, in the hands of the Crown."

No approach was made to a license system, nor any arrangement made by which the public could receive any return for the privilege of cutting timber on the Crown domain for other purposes than naval construction, until a considerably later date.

Naval Contract abused. Licenses to cut timber in the Canadian forests were granted by the Home Government to the contractors for the Royal Dockyards, who in addition to fulfilling their contracts, took advantage of the privileges afforded them for that purpose, to do a general business in supplying the British markets. They carried on this profitable enterprise by issuing licenses to merchants and Lumbermen in Canada who operated as their agents, as they were legally authorized to do.

The Upper Canada Gazette contains the following notice of a Royal warrant vesting in a firm of navy contractors the right to cut trees reserved to the Crown in Upper and Lower Canada, together with the appointment of a Canadian Mercantile house as their agents, which illustrates the working of the system.

Council Chamber, 23 January, 1808.

Notice is hereby given by His Excellency, the Lieutenant Governor-in-Council, to all whom it may concern, that His Majesty has been pleased to issue His Royal Warrant in the words following:

George R.

"Whereas, a Contract has been entered into by the principal Officers of His Majesty's Navy, with Messrs. Scott, Idles & Co., supplying His Majesty's dockyards in England and the West Indies, with Canada Masts and Oak Timber, and it being stipulated in the said contract that no Masts or Bowsprits which are cut in His Majesty's Colonies shall be de-

livered at the Dockyards unless they are cut by License from His Majesty's Surveyor of the Woods in North America, and also if it should be required, under the inspection of this Officer. Upon the representation of the matter to Us by the Commissioner for executing the Office of High Admiral of Our United Kingdom of Great Britain and Ireland, We have thought fit to give Leave, License and Permission unto the said Messrs. Scott, Idles & Co., their agents and workmen, to travel into and search Our woods in Our Provinces of

An Extensive Timber Limit. Upper and Lower Canada, where We have reserved to Us the property in any Woods or Trees, and the right of cutting them, and there to fell and cut so many good and sound trees as may answer the number and dimensions mentioned in the said contract (a copy whereof subscribed by one of Our Principal Secretaries of State is hereunto annexed) and to carry the said trees through our said Woods to the water-side in order to the transporting and bringing them into our own stores without incurring any penalty or forfeiture by reason thereof.

"And lastly ; We do hereby require as well as Our Governor or Lieutenant-Governor of Our said Colonies as you and all Our Officers, Ministers and Loving Subjects, whom it may concern, to be aiding and assisting to them, their Agents and Workmen, in whatever may relate to the due execution of this service, pursuant to the Contract above mentioned. And for so doing this shall be your warrant.

"Given at Our Court of St. James, the second day of October, 1807, in the forty-seventh year of Our reign.

" By His Majesty's Command,

(Signed)

" CASTLEREAGH.

"To our Truly and Well Beloved Sir John Wentworth, Baronet, Surveyor General of Our Woods on the Continent of America, or to his Deputy or Deputies, or to the said Surveyor General of Our said Woods, his Deputy or Deputies, for the time being, and all other whom it may concern."

Transfer of License. "We, the undersigned contractors named in His Majesty's Gracious Warrant, do hereby appoint Messrs. Muir & Joliffe our agents at Quebec, for the purposes within mentioned.

(Signed)

SCOTT, IDLES & CO."

London, 9th October, 1807,

"His Excellency further gives notice, that a Contract has been made under the authority of the said Warrant with Messrs. Scott, Idler & Co., Merchants in London, who have appointed Messrs. Muir and Joliffe, Merchants at Quebec, to be their agents for the purposes therein mentioned, and that no irregularity may take place on the part of the said Contractors, their Agents or Workmen, His Excellency has thought proper to order the Deputy Surveyor General of the Woods to mark such White Pine Trees as come within His Majesty's orders expressed in the above Warrant.

By His Excellency's Command,

JOHN SMALL,
Clerk of the Executive Council."

A great impetus was imparted to the development of the Canadian lumber industry by the financial policy of the Mother Country during the first quarter of a century. The Colonial Protection. imposition of heavy duties on foreign timber, levied in the first instance as a revenue measure to provide for the expenses of the French war, but afterwards retained with the avowed object of affording protection to colonial trade, caused a sudden and rapid expansion of the volume of timber importations from British North America.

In the year 1787, when the trade was in its infancy, a general consolidation of the duties took place, the impost on foreign timber being fixed at 6s. 8d. per load of 50 cubic feet brought in by a British vessel, with an addition of 2d. in case the shipment was made in a foreign vessel. In 1795 the financial strain, caused by the war, occasioned

a substantial increase, and a series of additions took place during the following years, the details of which it is needless to specify, until in 1810, which marks the commencement of the protective era, the timber du' y was placed at £21.4.8 per load in

Preferential Duties. a British ship, and 2s. 8d. extra in a foreign vessel. The culmination was reached in 1813, when an addition of 25 per cent. all round on customs duties was imposed, making the timber duty £3.4.11, with an additional

3s. 2d. when carried under a foreign flag. A very slight re-adjustment took place in 1819, when the war duties, originally designed to be merely temporary, were consolidated with the permanent imposts. The system was again revised in 1821, and a considerable reduction was made; the duty on foreign timber being fixed at £2 15s. per load, with the addition of 2s. 9d. for the protection of the British carrying trade. Then for the first time a substantial duty, amounting to 10s. per load was imposed on colonial timber, which up to that time had been virtually free, and which still was accorded the protection of 45 shillings per load, as against the European product.

The effects of this policy were soon manifested in the falling off of importations from the Baltic and other European ports, which in the beginning of the century furnished nearly the whole of the timber shipped to Britain, and the corresponding increase of colonial production and exportation.

An elaborate statistical table, showing the amount of timber consumed in the United Kingdom in each year between 1788 and 1833, with the quantities imported from the North American colonies and Europe respectively, was furnished to a Select Committee of the British House of Commons, appointed in 1835 to consider the question of timber duties. An analysis of these figures shows conclusively the effect of the policy of the Imperial Government in encouraging the development of the colonial timber industry,

A Colonial Timber Boom. which had increased by leaps and bounds. During earlier stages of the period covered by this table, comparatively little change is noticeable in the relative volumes of the European and British North American traffic—the increase in duty not being sufficient to overcome the strong prejudice then widely entertained against Canadian as compared with Baltic timber, and to counterbalance the lower freight from European ports. The first noteworthy increase in the volume of the colonial importation was in 1803, when the number of loads brought in from British North America increased from 5,143, the figure at which it had stood the year previous, to 12,133. The European importations for the same year amounted to 280,550 loads. The proportion of colonial timber steadily increased for some years, until in 1807 it reached 26,651 loads, as against 213,636 loads of the foreign product. The next year it had more than doubled, and in 1809 exceeded for the first time the European consignments, the figures being 90,829 and 54,260 loads respectively.

In 1811 the United Kingdom received timber shipments to the amount of 154,282 loads from British North America, and 124,765 loads from European ports. The war of 1812 caused a depression in the colonial trade, during which the foreign article took the lead until 1816, when the colonies supplied nearly twice the quantity furnished by Europe. The volume of British American importation rose from 153,707 loads in that year to 248,669 in 1818. The figures of the trade at this period, and some years

Heavy Exports. following, show not merely a large increase in the Canadian trade at the expense of the Baltic exporters, but a very steady and considerable augmentation in the total volume of timber consumption. In the five years, from 1819 to 1823 inclusive, the average annual importation from all sources was 452,158 loads, of which 166,600 came from Europe, and 335,556 from the colonies.

The five years following, 1824 to 1828, average as follows:—Total importations of timber, 602,793 loads; European product, 191,890; colonies, 410,903. Notwithstanding that the duty on foreign timber had been reduced, and a small duty on the colonial product imposed in 1821, the expansion of the traffic continued unchecked, showing that very substantial differentiation of 45 shillings per load in favour of British America was sufficient vantage ground as against foreign competition, with cheaper freight rates.

The British American trade had to make headway against the general but wholly unfounded prejudice, which for a long time prevailed in Britain with respect to the

quality of the colonial growth. The evidence taken in the course of an enquiry into the timber trade by a Select Committee of the House of Lords in 1820, which resulted in the changes of duty effected the year following, brought out some strong expressions of opinion by timber experts as to the inferior grade and undesirable qualities of Canadian timber as regards strength and durability, which to-day would only excite ridicule on the

part of any one conversant with the subject. Some of these utterances are Prejudice worth while giving, as showing the inveteracy of prejudices born of ignorance and dislike of innovation, and the difficulties with which those who Overcome seek to divert trade into unaccustomed channels have to contend.

Alexander Copland, a timber merchant and builder, when asked his opinion of the comparative qualities of timber employed, testified as follows: "The timber of the Baltic in general, speaking of Norway, Swedish, Russian and Prussian timber, is of very superior quality to that imported from America; the bulk of that is very inferior in quality, much softer in its nature, not so durable and very liable to dry rot; indeed, it is not allowed by any professional man under Government to be used, nor is it ever used in the best buildings in London. It is only speculators that are induced to use it, from the price of it being much lower than the Baltic timber; and if you were to lay two planks of American timber upon each other, in the course of a twelve month they Exploded would have the dry rot almost invariably to a certain extent; if you were to Theories. lay two Christiana deals in the same manner for ten years, there would not be the same appearance of it, so that there is something in its quality favorable to the dry rot, which prevents it being used in buildings except where there is a thorough air all around it." He went on to say in reply to other questions, that if the duties were reduced so that the Baltic timber could be sold for the same price as the American product, the latter would never be used except for some temporary purpose.

John White, another experienced timber merchant, gave evidence as regards the supposed liability of American timber to dry rot. "Of the American timber," he said, "we have generally estimated the red pine to be the preferable, but I have had experience latterly of it lately that induces me to form a very unfavorable opinion; where it has been put into green walls it has universally decayed. The soft or yellow pine timber (white pine) which has not apparently so good a character, when exposed to the air lasts very well; enclosed it is subject to rot. The pitch-pine timber, but which comes from the United States, as, indeed, does the red pine, is subject to decay from dry rot, if enclosed, and that very rapidly."

Many other expressions of opinion to the same effect could be quoted from the testimony taken during this investigation, showing how general at that time was the prejudice against American timber, on the ground of its supposed liability to decay more rapidly than the product of Northern Europe. Despite this general impression as to the inferiority of Canadian timber, the volume of importation, as the figures above quoted show, continued to increase enormously, its cheapness, as compared with the heavily taxed import from the Baltic region, being a strong incentive to its use. When once accorded a fair trial, experience quickly proved its merits, and enquiry demonstrated that the notion of its unfitness for building purposes, owing to its special liability to dry rot, was partly due to incidental and preventable causes and partly to the fact that inferior grades of the colonial product had been taken as the standard of comparison with the best of the European timber. These points were clearly brought out in the lengthy and exhaustive investigation held by a Select Committee of the Imperial House of Commons in 1835, when the tone of the testimony given was much more favorable to British-American timber than that recorded fifteen years previously.

One of the principal witnesses of the investigation of 1835 was Joseph R. Hume of the Board of Trade, who stated that a good deal of very cheap and inferior timber came in from the colonies, which was brought over by "seeking ships," and sold Baltic vs. at very low prices. The high protective duty on the Baltic timber kept Canadian. out the lower and cheaper grades, as it would not pay them to import them, and consequently the British consumer was only acquainted with the better qualities of European timber. A few extracts from the evidence of John

Miller, ship-owner and timber importer of Liverpool, given on this occasion, will illustrate the change of opinion in Britain as to the qualities of Canadian pine.

Q. "Is it not the price of different articles which governs the consumption of the consumer ?

A. Not so much as the quality of the article.

Q. Do you mean to say that there would not be a different balance between the two articles [Colonial and Baltic timber], supposing there was no difference in the duties ?

A. I mean to say that, for a particular description of American pine, I could get 3d. to 4d. a foot more than for any Baltic, but that is but a small proportion of the import.

Q. For certain purposes, even though there were no duty on either timber, you think that certain better descriptions of American timber would continue to be imported ?

A. I know it for a fact. I know that now for the very timber of which I speak, as received in very small quantities, I can get a higher price than I can for any Baltic.

Q. When you spoke of a change of taste rather inclining in favor of the North American timber, did you not speak rather with reference to your experience of the manufacturing district in your own neighborhood than to the whole country ?

A. I spoke more decidedly with reference to my own neighborhood, but I believe it to be applicable also to the port of London. I refer to the prices current, and the import of the port and the consumption of the different articles, and I find that the consumption of colonial timber is growing very much upon that of the Baltic.

Q. Have you reason to believe from your intercourse with the leading builders in Lancashire, that the estimation of American timber is much increasing ?

A. No doubt of it.

Q. Can you state any facts upon the subject ?

A. I can state the opinions I know to be entertained by other people. I know that Mr. Bellhouse, who is the largest dealer in Manchester, has changed the views he formerly entertained as to the comparative merits of the two timbers, and that he now gives a decided preference to the timber from the Colonies.

Q. For all purposes ?

A. For all purposes. He in building large warehouses, has latterly consumed Canadian yellow pine in preference to Canadian red, Dantzig or Memel. He states, I think, that he consumes about 50 cargoes a year, and even when he can get Red and lengths of Canadian red timber or Memel timber to suit the purpose, he White Pine. uses in preference Canada yellow pine, and he states his reason that, for the last 15 years he has been a close observer of the different qualities of timber and the different effects produced upon it by exposure to the air and influence of atmosphere, and he finds that when you introduce the yellow pine of Canada into brick and mortar the ends are little liable to decay, and that the ends of either of the red pine timber from Canada, or of Memel and Dantzig timber, are more liable to decay.

Q. Does that extend to out-door window frames and such things ?

A. We have long used the red pine timber from Canada for that purpose.

Q. Is it more durable when exposed to change of atmosphere ?

A. In this country we have not a very great variation of climate, and I apprehend that either timber, if sufficiently exposed to the air will prove durable.

Q. Is not this opinion of Mr. Bellhouse the result of long experience, and is it not a change from his former opinion ?

A. Decidedly ; and in Glasgow where I know at first, they used for building purposes nothing but Baltic timber, this year I wrote to Glasgow to a correspondent of my own, a large dealer in timber, to give me a statement of the proportion of each sort in consumption there, and he told me that the whole consumption in Glasgow of Baltic timber last year was not 200 loads."

Speaking of the views of timber experts given before the House of Lords Committee in 1820 Mr. Miller added : "I think they were under a mistake which time and further

experience have rectified. I know the nature of the evidence adduced at that time and, so far as my own experience goes, almost every opinion there stated has proved to be wrong."

In short the history of the growth of progress of the Canadian timber export trade to Great Britain is simply a repetition of the familiar story of unreasoning and prejudiced opposition to every new departure from the old established channels of commerce and industry, yielding, gradually but surely, as the innovation succeeds in justifying itself by the test of practical experience. Sooner or later, the timber resources of Canada would have found a market in Britain under any circumstances, but there is no doubt that the financial policy, which, by imposing higher duties on the Baltic timber, gave the colonial product such great advantage in cheapness to the consumers, greatly hastened the period of its introduction for building purposes. Once established firmly in popular appreciation it maintained its ground in spite of the changes in fiscal policy, which deprived it of these factitious advantages.

Duty Reduced. In 1842 the duty was reduced to 25s. per load on foreign, and 1s. on colonial timber, without resulting in any permanent diminution in the volume of importations from British North America. The great Free Trade movement which resulted in the repeal of the corn laws in 1846 witnessed a further reduction in the foreign timber duties and the total abrogation of the hardly more than nominal impost on the Canadian product.

Gladstone. In a despatch sent by the Right Hon. W. E. Gladstone, then Colonial Secretary, under date of March 3rd, 1846, to Earl Cathcart, Governor of Canada, announcing the change of policy, the following references to the timber trade of the colonies with Britain occur:—"I have much satisfaction in drawing your Lordship's attention to the fact, that the colonial timber trade prospers under the operation of these changes in the laws which were enacted in 1842, and which had taken full effect before the end of 1843. The increased facilities of internal transit in this country, independently of the very great temporary demand connected with the construction of the railways, that are to effect this great improvement, promise a considerable and permanent extension of the market for foreign woods, an extension likely to be accelerated, unless it be as to Scotland, by the progressive diminution of the home growth of timber through the United Kingdom.

"The description of wood which is supplied by the British North American colonies, the yellow pine, is not chiefly to be regarded as competing with the wood of the Baltic, but rather as available for different though concurrent uses. For example, the increase of Baltic timber, tending to encourage the construction of new buildings by supplying the best materials for particular portions of them, has an effect not in limiting but in extending the demand for Canadian timber, as furnishing the cheapest and most convenient material for other portions, namely, the inward fittings of the very same fabrics.

Duty to Equalize Freights. "Her Majesty's Government are not indeed prepared to assert that the question of the relation between the duty on foreign timber and the colonial wood trade ought to be adjusted with reference to this consideration alone, and you will perceive that they propose to retain a duty of 15s. per load upon foreign timber, which I apprehend may be considered as, upon the average, nearly covering the difference between freights from the Baltic and those from British North America to the United Kingdom. Not only are they free from the apprehension that the proposed remission of 10s. per load on foreign timber and 12s. on foreign deals, will cause a contraction of the trade from British North America; but they are sanguine in the anticipation that that trade will continue, notwithstanding the proposed change, to extend itself."

Trade with U. S. Mr. Gladstone's forecast proved correct and the importation of timber from the British North American colonies continued to increase in volume after the last vestige of protection had disappeared, notwithstanding the advantage enjoyed by the Baltic shippers in proximity to the British market and consequent low freight rates. According to the Canadian trade and navigation returns, the exports of forest products of all descriptions to Great Britain for 1850 amounted in value to £971,375 Canadian currency. Four years later this figure was more than

doubled, and in 1857 it stood at £2,044,178. This steady augmentation of the timber shipments to the mother country was moreover proceeding simultaneously with the rapid development of the trade in forest products with the United States, stimulated by the settlement of the scantily timbered or treeless areas of the Western States. In the year preceding Confederation, that ending June 30th, 1867, the American demand stood as nearly as may be on a par with that of the British Islands, the value of forest produce shipped over the boundary line being \$6,831,252, as compared with exports valued at \$6,889,783 which found a market in Britain.

In order to present a clear and connected view of the rise and progress of the timber trade with Great Britain, it has been requisite to note the consecutive phases of British Legislation which contributed so largely to its growth, somewhat out of their chronological order in relation to Canadian development, to which it is now necessary to revert.

First Canadian Timber Laws. The earliest enactment of a Canadian Legislature bearing on the timber trade was adopted in Lower Canada in 1805, with the object of preventing accidents in navigating the formidable rapids of the St. Lawrence, which owing to the increased quantities of lumber and timber forwarded to Montreal by this route had become frequent. As it formed the precedent for much subsequent legislation dealing with the same question it may be well to present it *in extenso*.

"An Act for the appointment of an Inspector and Measurers of Scows and Rafts, and for regulating the pilots and conductors thereof between Chateauguay and the City of Montreal. (25th March, 1805.)

"Whereas, many accidents and considerable loss of property have arisen in the rapids of the River St. Lawrence above the City of Montreal partly by the ignorance or negligence of persons undertaking to pilot and conduct scows, loaded with flour and other provisions, also, oak, timber, staves, and other lumber coming from Upper Canada, and firewood from different parts of this Province, above the said rapids, and it being necessary that the regulations be made to guard as much as possible against such

First Timber Measurer. accidents and losses, in future. Be it therefore enacted by the King's most Excellent Majesty, by and with the consent of the Legislative

Council and Assembly of the Province of Lower Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of Great Britain, entitled "An Act to repeal certain parts of an Act passed in the Fourteenth Year of His Majesty's reign intituled: 'An Act for making more effectual provision for the Government of the Province of Quebec in North America,' and to make further provision for the Government of the said Province," and it is hereby enacted by the authority of the same, that it shall and may be lawful for the Governor, or Lieutenant-Governor, or person administering the Government for the time being, by an instrument under his hand and seal at arms to nominate and appoint one discreet and intelligent person resident in the Parish of Chateauguay, to be Inspector, and two others so residing to be Measurers of scows and rafts of timber and lumber, as also of fire wood, and from time to time the said Inspector and Measurers, or either of them to remove, and also in case of death and resignation, another, or others being resident in the said Parish of Chateauguay, to nominate and appoint in his or their place and stead.

2. And be it further enacted by the authority aforesaid, that it shall be the duty of the Inspector and Measurers to keep themselves informed of the state of the water in the rapids between Chateauguay and Montreal, and in consequence from time to time, as often as in their judgment need be to determine what depth of water scows and rafts respectively may draw, to pass through the said rapids in safety, of which depth the said Inspector shall at every such time make a record in a book to be kept by him for that purpose, and the applicant for the measurement of scows and rafts, shall have access thereto, without fee; and the said Inspector upon application to him shall proceed himself, or send one of the Measurers, to take the depth of water which each scow or raft then intended to be conveyed through the rapids draws, and shall brand such draught of water thereupon. Provided that, before any scow or raft shall be so branded, it shall be lightened (if exceed-

ing the same) to the draught of water so determined upon, as the measure of safety, and if the said Inspector and Measurer, or one of them, shall not in a reasonable time proceed to measure any scow or raft, as to the depth of water it draws when applied to for that purpose, or shall refuse or omit to brand the same, when drawing or lightened to draw a depth of water, not exceeding that upon record for the time, or shall brand a scow or raft which exceeds such depth upon record, the Inspector or Measurer so offending, shall forfeit and pay for every such offence, a sum not exceeding forty shillings current money of this Province.

3. And for the greater safety of property which may be committed to the care of Pilots undertaking for hire to conduct scows and rafts from Chateauguay to Montreal: be it further enacted that every person intending to act as a Pilot in any such case shall annually take out a license to authorize him to practice for hire the piloting Licensed and conducting of scows and rafts from Chateauguay to Montreal, aforesaid, Pilots. which license the Justices of Peace for the District of Montreal, in their weekly sittings, or any special session to be held in the said city, are hereby authorized and required, on the recommendation of the Inspector, or any one of the Measurers (if no good reason be shown to the contrary) to grant to the person applying for the same on paying to the Clerk for such license, two shillings and sixpence currency, and no more: and the said Clerk is hereby required to keep a register of the names of the persons who shall be so licensed. Provided always that if any person applying for such a recommendation shall be refused the same, such person shall be allowed to adduce before such Justices, proof of his capacity to discharge the duties of a Pilot, upon which and after hearing the Inspector or a Measurer, in support of the reasons for such refusal, the said Justices shall grant or withhold a license as they shall see most conducive to the purposes of this Act.

4. And be it further enacted by the authority aforesaid, that if any Pilot having charge of any scow or raft, shall leave Chateauguay to proceed through the rapids to Montreal, before the same shall have been measured as to the depth of water which such scow or raft then draws, and branded as hereinbefore directed, every such Pilot shall for every such offence forfeit and pay a sum not exceeding forty shillings current money of this Province.

5. And be it further enacted by the authority aforesaid, that if any person not being a Licensed Pilot as aforesaid, shall, for hire or payment of any wages, undertake to conduct or pilot through the rapids from Chateauguay to Montreal, any scow, loaded in part or in whole, or any raft of oak timber or staves, or other lumber or firewood, every person so offending shall for every such offence, forfeit and pay a fine not exceeding forty shillings current money of this Province.

6. Provided, always, and be it further enacted by the authority aforesaid that nothing in this Act contained, shall extend, or be construed to extend, Owner may to prevent any person or persons from conducting and piloting from Act as Pilot. Chateauguay to Montreal any raft or rafts of firewood, which is or are his or their property, but this shall not exempt any such proprietor from first causing such raft or rafts of firewood to be measured and branded as by this Act is directed; and in default of being so measured and branded, every such proprietor shall forfeit and pay a sum not exceeding ten shillings current money of this Province.

7. And it being necessary to fix the hire or wages of Pilots licensed as by this Act is directed. Be it further enacted by the authority aforesaid, that from the opening of the navigation until the first day of October, annually, there shall be paid to the licensed Pilots in lieu of all wages, provisions and ferriage for piloting from Chateauguay to Montreal the following hire or wages, that is to say: For every scow Pilots Fees. loaded in part or in whole, thirty shillings, currency. For every raft of staves, timber or other lumber consisting of two cribs, and not exceeding eighty feet in length, twelve shillings and six pence, currency. For a single crib of staves, timber or other lumber, if the proprietor shall require it to be piloted singly, twelve shillings and sixpence, currency. For every raft of firewood, ten shillings, currency. And from

and after the first day of October, inclusive, annually until the close of navigation there shall be allowed and paid over and above the before mentioned rates an addition of one-fifth part.

8. And, whereas, accidents may happen to scows and rafts in their passage from Chateauguay to Montreal. Be it further enacted by the authority aforesaid that it shall be the duty of the pilot having charge of any scow or raft, which shall meet with an accident, to give every assistance in his power, not only to clear the rapids from the

In case of Accidents. impediments which such accident may occasion, but further to the best of his skill and abilities, to assist in endeavoring to save from loss, the loading of any such scow or raft so meeting with an accident, nor shall he depart or leave the same until discharged by the owner thereof or his agent, under the penalty of the loss of his wages ; and, further, a fine not exceeding twenty shillings currency for every such offence. Provided always that over and above the allowance for pilotage to such Pilots as hereinbefore established, there shall be paid to him, for every day that he shall be detained in so clearing the rapids, or in assisting to save the property committed to his charge, the wages following, that is to say : from the opening of navigation until the first day of October, five shillings currency per day, and from the first day of October inclusive, until the close of the navigation, one-fifth more, and in both cases of such detention provisions whilst so employed.

9. And be it further enacted by the authority aforesaid, that it shall be the duty of a Licensed Pilot upon being thereunto required by the Inspector, or either of the Measurers to take charge of any scow or raft, which shall have been gauged and branded, and if any such Pilot shall after such requisition refuse or neglect to take charge thereof, and shall a second time after a like requisition the same not being made the same day, and the Pilot so required not being then actually engaged to conduct any other scow or raft, nor being incapable from sickness to do his duty, still refuse or neglect to take charge of a scow or raft so gauged and branded, every such pilot so refusing and neglecting a second time shall, upon conviction thereof, forfeit and pay a sum not exceeding twenty shillings currency, and be deprived of his license for the remainder of that season ; and if any Pilot so convicted shall nevertheless afterwards presume to pilot any scow or raft, during that season, he shall forfeit and pay a sum not exceeding forty shillings currency.

10. And be it further enacted by the authority aforesaid, that for the trouble of inspecting, measuring and branding of every scow, crib, or raft, as hereinbefore directed, there shall be paid into the hands of the Inspector the following rates and **Inspector's Fees.** allowances, that is to say: For every scow loaden in part or in whole, six shillings currency. For every crib of staves, timber or other lumber, two shillings and sixpence currency. For every raft of firewood, one shilling and three pence currency. And for every crib or raft with wheat, flour or other provisions, or pot or pearl ashes thereon, two shillings and sixpence currency. And the monies so received by the Inspector shall be divided and paid as follows, that is to say : two-fifth parts to be retained for himself, and the other three fifths to the Measurers by equal portions.

11. And be it further enacted by the authority aforesaid, that all fines and penalties by this Act inflicted, unless otherwise provided for, be sued for within three calendar months after an offence committed, and not afterwards, before any one or more Justices of the Peace in the District, who is and are hereby authorized to hear and determine the same, and on conviction of the offender, by his or her confession, or by the oath of one or more credible witness or witnesses, being other than the prosecutor, the same shall be levied

Penalty for Non-Payment. with costs of suit, by warrant of distress, under the hand and seal of such Justice or Justices of the Peace, of the goods and chattels of the person so convicted ; and one-half of such fines and penalties shall be paid to the prosecutor, and the other half shall be paid into the hands of His Majesty's Receiver General of this Province, to be applied to the public uses thereof ; and the same shall be accounted for to His Majesty, his Heirs and Successors, through the Lords Commissioners of His Majesty's Treasury, in such manner and form as His Majesty, his heirs and successors shall direct.

12. And be it further enacted by the authority aforesaid, that if any suit be brought against any person for anything done or executed, by virtue of and in pursuance of this Act, such suit shall be commenced within three months after the matter or thing done, and not afterwards; and the defendant or defendants may plead the general issue, and give this Act and the special matter in evidence, on any trial to be had thereon, and that the same was done in pursuance of and under the authority of this Act, and if judgment shall be given for the defendant or defendants, or the plaintiff or plaintiffs shall become non-suited, or shall discontinue his, her or their prosecution, after the defendant or defendants shall have appeared, then such defendant or defendants may and shall recover treble costs, and have the like remedy for the same as any defendant or defendants hath or have to recover costs in cases at law.

13. And be it further enacted, by the authority aforesaid, that this Act shall continue and be in force until the first of January, one thousand eight hundred and eight, and from thence to the end of the then next session of the Provincial Parliament and no longer."

In 1808 the Act, having been found beneficial in its effects, was made perpetual with some amendments. Scows were exempted from its operations and those in charge

Timber Returns. of such vessels allowed to make their own arrangements with licensed pilots in place of being subject to a fixed tariff of fees. Persons in charge of rafts or cribs of timber were authorized to employ such licensed pilots as they saw fit, the latter, in case of refusal or neglect of duty, being liable to the same penalties as though engaged by the Inspector or Measurer. The Inspector's duties were somewhat extended and he was required to make an annual return to the Commissioner of Inland Navigation of the number and as far as possible the contents of the scows, rafts and cribs passing during the season.

By another Act passed the same year entitled "An Act to provide a permanent Fund for the Improvement of the Inland Navigation of the River St. Lawrence," rates were levied upon all scows, rafts and cribs passing through the rapids between Chateauguay and Montreal, to be paid to the Inspector of scows and rafts at Chateauguay and applied to the improvement of inland navigation. The rates were as follows: Every scow,

Improvement Tax. fifteen shillings; every crib containing lumber, 7 shillings and six pence. A more important measure as affecting the timber industry, also adopted in 1808, was the "Act for the better Regulation of the Lumber

Trade. "Whereas," it begins, "lumber is become an article of importance in the export trade of this Province, and it would tend to increase its growing reputation to the great advantage of trade, if the quality and measurement thereof were properly ascertained." It was provided that no lumber of the description specified in the act should be exported until it had been culled, measured and certified as to quality. The Governor was authorized to appoint persons at the ports of Quebec and Montreal as Master Cullers and measurers of board and plank, staves, timber, masts and spars respectively, as well as at other places in the Province if it should be thought desirable. The same person may be appointed Master Culier of more than one of the descriptions of lumber specified. The duty of these officials was personally or by deputy to ascertain

Lumber Cullers. the quality and dimensions of the article submitted to their inspection, to reject such as were in any respect defective according to the definitions laid down in the Act, and give a true and faithful account in writing of the number, quality and dimensions of the articles found to be merchantable, which was to be final and conclusive between buyer and seller. Those engaged in the lumber trade were authorized to retain in their exclusive service master cullers and measurers specially licensed, but in such case those delivering lumber to them had the right to object to the culler and insist upon inspection by a public official.

The Act proceeded to define the standard which should determine the mercantile quality of lumber in the absence of any specific agreement between buyer and seller. Those relating to some of the more important staples were as follows:

Timber Standards. "Square oak timber shall not be less than twenty feet in length and ten inches square for measurement, and shall be free from rot, rings, shakes and other defects, properly squared and butted. Square pine timber shall

not be less than twenty feet in length, and not less than twelve inches square for measurement, and shall be free from rot, bad knots, shakes, and other defects, and properly squared and butted; Pine boards shall not be less than ten feet in length, and not less than eight inches in breadth, equally broad from end to end, edged by the saw or neatly trimmed by a straight line, free from rot, sap stains, bad knots, rents and shakes, and of an equal thickness on both sides from end to end. Pine plank shall not be less than ten feet long, nor less than six inches in breadth, equally broad from end to end, edged by the saw or neatly trimmed by a straight line, free from rot, sap stains, bad knots, rents, and shakes, and an equal thickness on both sides from end to end."

Provision was made for the stamping of all timber and lumber inspected and found up to the standard of merchantable articles, with the letter "M." Persons **Timber** shipping timber of any description for exportation which had not previously **Brands.** been culled and measured were liable to a penalty not exceeding £100 and not less than £10, and Justices of the Peace were authorized to issue warrants for the seizure of such lumber on the information of any culler or measurer or any other person.

The Act appears to be somewhat loosely drawn, and to be encumbered with provisions, which must greatly have interfered with its effectiveness. The first section comprises the following: "Provided also that nothing contained in this Act shall be construed to prevent the shipment of any article of lumber, notwithstanding such articles may not be of the dimensions hereinafter provided, if the same be of sound and good quality, and marked or certified as such, by one of the Inspectors, to be appointed by virtue of this Act. Provided further, that whereas pine timber, pine plank, pine boards of an inferior or second quality were heretofore imported from the countries bordering on the Baltic into Great Britain and Ireland, and continue to be saleable and useful for particular purposes; nothing in this Act contained, shall extend or be construed **Seconds.** to extend or prohibit the exportation from this Province of any such pine timber, or pine boards of an inferior or second quality."

It is not at all clear whether the cullers or measurers were required to apply any standard whatever to this second quality lumber, excepting such as might be demanded by the contract between buyer and seller, by which they were in all cases to be governed when such existed. The standards for "merchantable" timber were only to be applied "in all cases where there is no specific agreement between the buyer and seller."

It may fairly be concluded, therefore, that all the Act did, or was intended to do, was to provide a safeguard for those purchasers who desired a superior grade, while practically placing little or no check upon the exportation of lumber of a poor quality provided that it were distinguishable as such.

The Act contains some further provisions as to the salvage of timber adrift in the rivers, and imposing penalties upon those appropriating such timber to their own use, or wilfully setting timber adrift, into the details of which it is unnecessary to enter.

This Act, which was to remain in force for only two years, was re-enacted in 1811 with some changes. The section authorizing dealers to retain licensed cullers in their exclusive service was abrogated, and an amendment adopted prohibiting Master Cullers and Measurers from trading in timber under penalty of dismissal from office and a heavy fine. This Act, like the former, was to remain in effect only for two years. Continuing legislation was enacted from time to time until 1819, when the existing enactments were repealed and a new Act adopted, based upon the original law in most of its details, but somewhat more stringent and comprehensive in its provisions. All existing licenses to cullers and measurers were cancelled, and it was provided that no persons other than those who had previously held licenses should be commissioned to act in that capacity thereafter, without having passed an examination as to their qualifications before a Board to be appointed by the Governor. The standard for merchantable lumber was raised by a more detailed specification of the defects to be considered as disqualifications, and the list of descriptions of lumber subject to inspection was considerably amplified.

Cullers and measurers, as before, were to be governed by the contract between the buyer and seller as regards the dimensions and descriptions of the article submitted to their inspection, and the very elaborate and rigid definitions of what constituted "merchantable" timber were only applicable where no specific agreement between the parties existed. The measure in fact presents the same problem of confusing and contradictory provisions as characterized the first legislation on the subject. As in the Act of 1808, the section prohibiting the exportation of any lumber not culled, measured and certified to possess the requisite qualities of excellence specified, was modified by the proviso that nothing should be construed to prevent the exportation of timber, plank and boards "of any inferior or second quality," with the addition of the clause—"provided the quality thereof be declared in the cocket and manifest accompanying the same by the ships."

At the same time the provision for the seizure of lumber shipped for exportation without having been culled, stamped and marked, was included in the Act of 1819, and another section rendered it penal for the Master or Owner of a vessel to receive on board unstamped lumber. As there is no mention of any intermediate grading or provision for other branding than as "merchantable" or "rejected" the duties of the Ineffectual cullers, as regards inferior qualities of lumber, appear to have been left Legislation. very badly defined, and the whole question as to the rights and liabilities of exporters in the matter in an extremely chaotic condition so far as the wording of the Act was concerned, though no doubt the custom of the trade furnished a working basis for the system despite these apparent incongruities.

The Act of 1819 was kept in force until 1823, when some amendments were made, and renewed again in 1825, expiring two years later. In 1829 a fresh enactment was made by the Legislature of Lower Canada, much along the lines of the previous laws, but more explicit in its terms, as the whole matter was placed beyond question upon a voluntary or permissive basis.

All the prohibitions as to the shipment of uninspected lumber were omitted, and it was distinctly provided that "nothing contained in this Act shall prevent or be construed to prevent, the shipping or the exportation of any lumber or timber of an inferior quality or size, or without inspection where or when the shipper or exporter shall think proper, to ship or export any such lumber or timber." After being renewed in 1832 it was permitted to expire by the lapse of the term for which it was revived in 1834.

There was no further legislation affecting the lumber trade by the Province of Lower Canada, but after the union of the Provinces in 1840 the Parliament of Canada undertook to deal with the subject. A measure was passed in 1842, by which the Mayor of Quebec was authorized to appoint a supervisor of Cullers, and the Board of Trade of the same city

to appoint a Board of Examiners, by whom all cullers' licenses were to be granted. . . . The inspection of lumber for home consumption was left entirely optional. As regards exportation, the Act provided that no person, being the owner of mills at which deals were manufactured, should be required to cause such deals to be measured, if exported by such manufacturer on his own account, but with that exception, no lumber should be exported without being measured, under a penalty of one penny currency for each cubic foot, or one shilling for each separate piece of lumber so shipped. The Act was to remain in force until the year 1847, but in 1843 it was repealed as being insufficient to accomplish the object in view, and a more stringent measure enacted in its place. The appointment of the Supervisor of Cullers was taken out of the hands of the Mayor of Quebec and vested in the Governor, that of the Board of Examiners being entrusted to the Council of the Quebec Board of Trade. Cullers' licenses were to be issued by the Government on the presentation of a certificate of fitness from the Board of Examiners. Following the principle laid down in several previous acts, the culler was required to mark the dimensions of all square timber, and, if requested by the seller or buyer, to stamp every piece of lumber according to quality, the letter "M" indicating what was merchantable, "U" what was sound and of good quality, but under merchantable size, and "R" rejected and unmerchantable.

This measure was repealed in 1845 when the enactment which replaced it established for the first time the system of grading timber in accordance with its quality. Second and third quality standards were adopted both for timber and deals.

The standards for merchantable timber were set out with greater precision and fullness of detail than before.

It was provided that square timber should be measured in accordance with some one of the following modes :—

1. In the raft or otherwise, giving the full cubic contents without any allowance or deduction.

2. In shipping order, which should mean sound, fairly made timber, or,

3. Culled or measured in a merchantable state in accord with the standards prescribed.

The position of the export trade with respect to culling and measuring was thus defined :—" Nothing in this Act contained shall be held or construed to make it compulsory for any article of timber to be measured, culled or assorted, under the provisions of this Act, provided that such lumber be shipped for exportation by sea for account (in good faith) of the actual and bona fide producer or manufacturer thereof; but all other lumber shipped for exportation by sea shall be either culled, measured or counted (at the option of parties) by a licensed culer, under the control and superintendence of the Supervisor, under a penalty equal to the market value of any article of lumber so illegally shipped." It was provided that the Act should not extend to any place below the eastern end of the Island of Orleans.

There was no similar legislation in Upper Canada, or any measure on the Statute Books of that Province directly bearing upon the lumber industry until 1819, when duties were imposed upon a number of specified articles imported from the United States. Forest products were not included in the list, but it was provided by a general clause that upon all unenumerated goods, the growth, produce or manufacture of the United States,

an ad valorem duty of 5 per cent. should be levied. With certain Upper Canada specific exceptions, which included staves and headings. A further Customs Duties. clause provided "that nothing in this Act contained shall extend or be construed to extend to prohibit the admission of flour, oak, pine, and fir timber into this Province free of duty, for exportation only." At this time a great deal of lumber was imported into the Provinces from the United States, and reshipped from Quebec to the British market, so as to obtain the advantage of the preferential tariff in favor of the Colonies. The extent of this trade attracted the attention of the British Authorities who evidently had no intention that the privileges granted to the Canadian exporter should cover the timber supplies brought into Canada from the United States. In 1820 an official enquiry was instituted. An official statement, made as a return to an address of the House of Commons, showed that the timber imported into Lower Canada from Lake Champlain via the Port of St. John's, from the year 1800 to 1820, included 10,997,580 feet of red and white pine timber, 3,935,443 feet of oak timber, 34,573.853 feet of pine plank, and 9,213,827 feet of pine boards. The result was that in 1822 an Imperial Act was passed to regulate the trade of the Provinces of Upper and Lower Canada, by which duties were imposed upon lumber and timber imported from the United States, as follows :—

		Sterling.
	Every 1,000 shingles not more than 12 inches in length	£0 7 0
	Every 1,000 shingles more than 12 inches in length	0 14 0
Imperial Duties.	Every 1,000 red oak staves	1 1 0
	Every 1,000 white oak staves or headings	0 15 0
	Every 1,000 feet white or yellow pine lumber of one inch thick	1 1 0
	Every 1,000 feet of pitch pine lumber	1 1 0
	Other kinds of wood and lumber per 1,000 feet	1 8 0
	Every 1,000 wood hoops	0 5 3

By a subsequent Act three years later this tariff was continued with some important changes.

The policy of the Imperial Government with regard to the maintenance of permanent timber reserves, which was laid down in the instructions given to the earlier Governors of Quebec, from which extracts have been given, was steadily kept in view after the separation of the Provinces. The elaborate instructions received by the Duke of Richmond, Governor-in-Chief of the Province of Upper Canada, dated May 9th, 1818, comprise the following directions as to the system to pursue in surveying and granting land, with the object of retaining in the hands of the Crown the more valuable timber producing tracts.

35. "Whereas the reserving of such bodies of land within Our Province of Upper Canada, where there are considerable growths of timber fit for the use of Our Royal Navy is a matter of the utmost importance to Our Service; it is Our Will and Reserves. pleasure that no grant whatever be made in lands in any district or tract of Our said Province of Upper Canada until our Surveyor General or his Deputy, lawfully appointed, shall have surveyed the same and marked out as reservations to Us, Our heirs and successors, such parts thereof as shall be found to contain any considerable growth of masting or other timber fit for the use of our Royal Navy, and more especially on the rivers; and you are hereby instructed to direct Our Surveyor General of Lands in Our said Province, from time to time with all due diligence to complete the surveys and mark out the reservations as aforesaid, in the most convenient parts of Our said Province; and you are from time to time to report the manner, extent and situation of such reservations; and you are further directed to direct Our Surveyor General not to certify any plots of ground ordered and surveyed for Pine Lands any person or persons in order that grants may be made out for the not to be Sold. same, until it shall appear to him by certificate under the hand of Our Surveyor General of Woods, or his deputy, that the land so to be granted is not part of nor included in, any district marked out as a reservation for Us, Our heirs, and successors, as aforesaid for the purpose hereinbefore mentioned; and in order to prevent any deceit or fraud being committed by the persons applying for land in this respect, it is Our will and pleasure that in all grants to be hereafter made for lands within Our said Province of Upper Canada, the following proviso and exceptions be inserted—that is to say—"And provided also that no part of the parcel or tract of land hereby granted to the said and his heirs, be within any reservation heretofore made and marked out for Us, Our heirs and successors by Our Surveyor General of Woods, or his lawful deputy, in which case this Our grant for such part of land hereby given and granted to the said and his heirs forever as aforesaid, and which shall, upon a survey thereof being made, be found within any such reservation, shall be null and void and of none effect, anything herein contained to the contrary notwithstanding."

PROVINCIAL REVENUE FROM FORESTS.

The earliest step towards making the forest resources of the Province a source of revenue and so securing to the public a share of the wealth drawn from the public domain was taken in 1826. Previous to this date, as has already been mentioned, the only persons authorized to cut timber on the public lands were the contractors for the Royal Navy, or those holding licenses from them. It is hardly surprising that this monopoly, from which the people derived no benefit, was continually infringed upon by unlicensed lumbermen, who pursued a very active and profitable illicit trade, despite all attempts of the officials to suppress it. The manifest unfairness of the system, both to the general public and to the persons desiring to engage in lumbering, but debarred from doing so in a legitimate manner, led to the termination of the contractors' monopoly, and the inauguration of a system under which any one was at liberty to cut timber on the

ungranted lands of the Ottawa lumber region, on payment of a fixed scale of rates to the Crown. The following Proclamation, issued by Sir Peregrine Maitland, Lieutenant-Governor of Upper Canada, announced this important change :—

UPPER CANADA.

P. Maitland,

Lieutenant Governor.

George the Fourth by the Grace of God, of the United Kingdom of Great Britain and Ireland, King, Defender of the Faith.

To all to whom these presents shall come Greeting :

Whereas for the more effectually preventing the recurrence of such abuses as have heretofore prevailed in the prosecution of the trade in timber in the parts of this Province, bordering on the River Ottawa, and to the end that the public interest may be more certainly advanced, the commerce in that important article of exportation the better regulated, and more equal justice observed with regard to all our subjects desirous of participating in the said trade ;

We have thought fit to order and direct that, until our pleasure herein be further made known it shall and may be lawful for all our subjects inhabiting our Provinces of Upper and Lower Canada, freely to enter into our woods and forests in such parts of our said Province of Upper Canada, situated along the banks of the River Ottawa, or upon the banks of the waters running into the said river, and a convenient distance from the same, as shall not have been surveyed and divided into concessions and lots, and to cut and carry away such oak and pine timber as may be fit for the purpose of exportation.

Provided always nevertheless, that in the consideration of the authority and permission hereby given, the several rates and duties hereinafter specified, shall be paid to Us, our Heirs and Successors, (that is to say) upon every thousand feet of oak timber, the sum of six pounds and five shillings, being at the rate of one penny, half Timber Dues. penny per foot. Upon every thousand feet of red pine timber, four pounds three shillings and four pence, being at the rate of one penny per foot. Upon every thousand feet of yellow pine timber two pounds one shilling and eight pence being at the rate of one half penny per foot. Upon saw logs of the proper length to be cut into deals, two pence upon each log. And upon every thousand of standard staves, four pounds one shilling and eight pence, which duties are to be paid in lawful money of our said Province of Upper Canada, and to be levied and received by such persons as We shall for that purpose appoint by Commission under the Great Seal of Our said Province ; and at such place or places on the said River Ottawa as we shall declare through our officer to be appointed as aforesaid to be most fitting and convenient.

Provided always, that for the better preventing the said timber being cut before it has attained a suitable growth, double the amount of duty herein specified Diameter shall be charged upon all such timber as shall not square more than eight limit. inches. And it is further our Will and Pleasure that all such timber or wood which shall have been cut as aforesaid upon our unconceded lands in Upper Canada, upon which the duties shall not be paid, when exacted by Our Officer so to be appointed as aforesaid, shall be seized and detained to Our use as forfeited.

Provided always, nevertheless, that all persons properly authorized by or under Our license granted in manner heretofore used to cut timber in Our said Province, shall be permitted to carry away and export the same, to such extent as their Old Licenses licenses may specify, without the exaction of any rate hereby imposed, Exempt. and that all such timber as may have been heretofore cut upon Our unconceded lands as aforesaid, without Our express license, may upon payment of the duties hereby specified, be suffered to pass through Our said Province of Upper Canada.

In testimony whereof, We have caused these Our letters to be made patent, and the Great Seal of Our said Province to be herein affixed. Witness Our trusty and well beloved Sir Peregrine Maitland, K.C.B., Lieutenant-Governor of Our said Province, and

Major General commanding Our forces therein at York, this third day of May in the year of Our Lord one thousand eight hundred and twenty-six, and in the seventh year of Our Reign.

P. M.

By His Excellency's Command,
J. B. Robinson, Attorney General,
D. Cameron, Secretary.

The following year Peter Robinson was appointed by the Royal Commission Surveyor General of Woods and Forests in the Province of Upper Canada, and received detailed instructions from the Commissioners of the Treasury as to the course to be pursued in dealing with the timber on the Crown Lands.

He was directed to make a survey of the woods and forests of the Province in order to ascertain in what districts there might be any considerable growth of masting or other timber fit for use of the navy; and also in what districts there might be any considerable quantity of other descriptions of timber. Evidently the Commissioners of His Majesty's Treasury, in cutting out Mr. Robinson's work on this extensive scale, had but a hazy idea of the Canada of 1827. After further instructing the Surveyor General to issue certificates whenever required by the Governor General or Commissioner of Crown Lands stating whether any lot or lots proposed to be sold contained any considerable timber fit either for naval or other purposes, the following directions as to the granting of timber licenses were given.

"And, whereas, much of the timber standing and growing on the waste and ungranted lands within the said Province may not be fit and proper for the use of His Majesty's Navy, and it may be expedient that permission should be granted to His Majesty's subjects to fell the same: We do therefore require and enjoin you that you do in the month of May, in each year, make a report to the Governor or Officer administering the Government, stating the districts in which it may appear to you advisable that Licenses should be granted to such of His Majesty's subjects as Provincial Timber Licenses. may be desirous of cutting timber not fit for His Majesty's Navy, specifying the quantities which, in your judgment, may be fit to cut in each district, and the quantities for which you would recommend that licenses should be granted in the then ensuing season."

Upon the Governor signifying his approval of the granting of licenses in the districts indicated by the Surveyor General the licenses were to be disposed of by public auction after due notice by advertisement in the York Gazette and some other newspaper circulating in the Province. Each license was to be for a quantity not exceeding 2,000 feet with upset prices as follows:

Oak, per 1,000 feet	£4	3	4
Ash, elm, beech, per 1,000 feet	2	10	0
Red pine, per 1,000 feet	3	0	0
White pine do	1	10	0
Staves, per standard 1,000	1	0	0
Handspikes, do	1	0	0
West Indian staves and other timber, per 1,000 feet	1	0	0

The conditions of these licenses were such that the timber should be cut within nine months, otherwise the license to be void. Purchasers were required to pay for the timber cut within fifteen months from the date of license and one or more Time Limit. measurers of timber were to be appointed in each district to certify as to the quantity of timber cut. The Surveyor General was authorized to incur contingent expenses on the following modest scale:—

	£	s.	d.	
" Wages to measurers, net	12	6	per day.	
Rent of an office	25	0	0	per annum.
For fuel	10	0	0	"
Messenger	25	0	0	"

Pay of clerks, assistants, etc., as may be necessary and as the Governor or officer Cost of Collecting Revenue. administering the Government, may deem reasonable, provided that the whole of such expenses do not in any year exceed one-sixth part of the net amount which may in such year be paid to the Receiver General of the Province in respect of such licenses."

Mr. Robinson, simultaneously with his appointment as Surveyor General of Woods and Forests, on the 19th July, 1827, was also appointed Commissioner of Crown Lands. The system so elaborately framed by the British Treasury Commissioners for his guidance was never carried out or even attempted to be put into effect.

On arriving in Canada, Mr. Robinson found Mr. Robert Shireff acting as Collector of Timber Dues on the Ottawa River. Mr. Shireff was a pioneer of the Ottawa lumber trade and was originally appointed Collector of Crown dues on timber by **Imperial Instructions Ignored.** Lord Dalhousie, in Lower Canada, and afterwards, on his Lordship's recommendation, received the appointment for the Upper Province. His son, Charles Shireff, acted conjointly with him without receiving any formal appointment. Mr. Robinson fell in with the system adopted by the Shireffs, who no doubt, as practical lumbermen, adopted a plan more workable in its details than the method outlined by the Treasury Commissioners.

The Surveyor General, as Mr. Robert Shireff stated, "found my son and myself acting under an arrangement made directly by the Government and he did not feel called upon to interfere with it further than to give each of us as his agents, authority to seize any timber that might be found cut without license, and giving us also from time to time such instructions as appeared to be necessary."

First Receipts. The first receipts by the Government of Upper Canada from timber licenses were in 1827, when the sum of \$360 was realized from this source. In 1828 the proceeds of timber licenses was \$3,134 and in 1829, \$2,237.

Hon. Robert Baldwin Sullivan, in a statement as to the management of the office of the Surveyor General of Woods and Forests, made in 1840 in connection with the investigation into the business of the public departments undertaken at that time, says, respecting the system of licenses and collection of dues as managed by the Messrs. Shireff:—

"In the summer or autumn of one year the persons wishing to engage in lumbering applied for a license to cut timber, stating the quantity proposed to be cut, upon which a license issued in the form hereto annexed, marked 'B,' the lumberers paid to the Collector 25 per cent. as an advance upon the Crown dues, and entered into a bond, a printed copy of which will be found in the appendix 'C.'

"In the ensuing summer the timber (having been cut and got out in the winter) arrived in the Chaudiere Falls at Bytown, where it was measured and an account taken of the contents of the several rafts, which then proceeded to Quebec.

License for Quantity. "The parties cutting the timber were not required strictly to confine themselves to the quantity specified in the license, and therefore as it was plainly their interest to advance as little money as possible on taking the license out, the quantity cut greatly exceeded that for which the licenses were given.

"This was productive of no actual loss to the Government as the whole of the timber was paid for at Quebec.

"When the timber arrived at Quebec, Mr. Charles Shireff was in the habit of proceeding thither to collect the Crown dues, and upon his own authority, introduced a system of taking mercantile bills in lieu of the bonds originally given.

"The purchasers of the timber being generally wealthy merchants, the personal security for the payment of the duties was increased rather than diminished by substitution of the security of the Lower Canada merchants for that of the lumbermen, and although strictly speaking money ought to have been insisted upon, I am not aware of any very material loss which has occurred from the system of taking bills, at the same

time it must have been a great convenience to the merchants not to be called upon for money until they had an opportunity of shipping the timber and drawing on London against the proceeds."

The outcome of the system was unfortunate and entailed a considerable loss to the Province. The Shireffs, being left to manage the collection of dues practically in their own way without any regular or efficient Government supervision, in the Lax year 1831, appointed Jones, Murray & Co, Quebec, a branch of the Mon-Methods. treal house of Horatio Gates & Co., reputed to be the most wealthy merchants in Canada, as their agents to make collections. By the failure of these firms after they had been some years acting in this capacity, and other irregularities arising from the business complications in which the Shireffs were involved, a shortage of several thousand pounds in the returns of money collected for timber dues was occasioned.

The laxity of administration which rendered such a condition of affairs possible in the management of the Woods and Forests Department was typical of the entire executive system of the period. The abuses of the Government were specially noticeable in connection with the disposal of the Crown domain.

In defiance of both the letter and the spirit of the official instructions repeatedly issued by the Home Government and of all sound principles of national economy, a system of reckless and profuse alienation of the public resources had come into vogue, which seriously retarded the settlement and development of the country, discouraged productive enterprise, and by the impoverishment and discontent which resulted, contributed much to swell the volume of popular disaffection towards the local governing class, which culminated in the Rebellion of 1837. The exhaustive investigation made by Lord Durham into the causes which led to that ill-fated outbreak, fully exposed the extent of the mis-government and corruption which had prevailed for many years, and the prodigal manner

in which the natural resources of both Provinces had been wasted by Public Lands the officials entrusted with their management. The abuses obtaining Administration. in connection with the disposal of public lands have so intimate a relation to the question of lumbering regulations and the general conditions of the lumber industry during the ante-Rebellion era, that many of the facts detailed in the evidence appended to Lord Durham's celebrated report, as well as some of the conclusions embodied in that epoch-making document, are directly pertinent to the matter in hand.

Hon. Charles Buller, Commissioner of Crown Lands for Lower Canada, who was commissioned by Lord Durham to investigate the manner in which Crown Lands had been disposed of, thus speaks of the systematic disregard of the instructions issued by the British Government officials.

"It is true that while in name the property of the Crown was under the control of an English Minister, these lands have been in effect administered by colonial authorities for purely colonial purposes. It was indeed impossible that it should be otherwise. The execution of the instructions from time to time issued by successive Secretaries of State, or Lords of the Treasury, has been of necessity entrusted to those who in the colonies were the peculiar representatives of the English Crown ; the Governor acting with the advice of his Executive Council. But the power nominally given to the Governor vested in effect entirely in his Council ; and the members of that Council being resident in the colony, having interests of their own to promote, or friends whom they desired to benefit, or it may be enemies whom they were willing to injure, have uniformly exercised their power for local or personal objects, unchecked by a control which in this respect could only be nominal."

The main abuse from which the country suffered during the period of mal-administration was the granting of wild lands in large tracts, under one pretext or Land another, to individuals or companies, who had no intention of settling on or Grants. improving them, but simply held them for the rise in value which they anticipated as the result of opening up the country.

The system of granting wild lands was so frequently altered, and the conditions as to settlement or payment of fees so various owing to the different classes of claimants, that it would be a profitless undertaking to attempt to follow the numerous changes in the regulations in Upper Canada and Lower Canada, more especially as varying methods were often in operation at the same time. But under whatever regulations were in force, and despite occasional attempts to restrict the tendency to the lavish granting of large areas without guarantees for their improvement, the practice was continued under one pretext or another.

When the country fell into the hands of the British, extensive grants were made, some in free and common socage, according to the English land tenure and others in fief and seigniory in the same manner as those made by the French prior to the conquest. The influx of U. E. Loyalists at the close of the American war of Independence was followed by an increased number of land grants principally in the part of the Province which subsequently became Upper Canada. After the separation of the Provinces in 1791, fresh instructions were issued by the Home Government, the chief object of which was to provide against the evils resulting from excessive grants to individuals, which established 200 acres as the limit of a grant. Certain duties of settlement were attached to every grant, in default of which the land granted was to revert to the Crown. The Governor, however, possessed the power to make an exceptional addition to the grant, and this power appears to have been so freely and frequently exercised as practically to nullify the restriction as to the area to be granted.

In Lower Canada a method by which the law was ingeniously evaded and influential persons enabled to secure the title to very extensive areas speedily came into operation.

Leaders It was known as the system of leaders and associates. The individual who
and was to reap the benefit of the transaction undertook the settlement of a
Associates township or smaller area. As leader he secured the signature of a number of other applicants for land, termed associates, who were supposed to be desirous of settling in a body upon the land. Each name represented 1,200 acres of land and when a sufficient number of names had been obtained, the requisite official formalities were complied with and the patents issued. The associates then for a trifling money consideration conveyed their lots to the leader. The latter usually took care to assure this by having each associate sign an agreement, simultaneously with the petition for a grant, binding himself to convey to the leader from 1,000 to 1,100 acres in consideration of the trouble and expense of procuring the survey and grant. The remaining 100 to 200 acres was afterwards conveyed by the associates for one or two guineas as the case might be, which was the real consideration for the use of their names. The system was so open and generally recognized that blank forms of such agreements were printed and publicly sold by the Quebec law stationers.

Mr. Buller states that during the administration of one Governor, Sir R. S. Milne, and under the same six members of the Executive Council who constituted the Land Board, 1,425,000 acres were granted to about 60 individuals.

"The profusion of this land granting Board was rewarded by the Duke of Portland by grants of nearly 120,000 acres of land, rather less than 48,000 being granted to the Governor, and rather less than 12,000 acres to each of the Executive Grants. Councillors of which it was composed."

Several of the Executive Councillors themselves figure in the list of "leaders" of townships.

The system was introduced into Upper Canada, but never fairly established. Some ten townships were granted in this manner, but the rush of applications was so great that the Council was induced, not only to abandon the system, but to rescind the grants made, giving each leader who attempted to fulfil the conditions of the grant 1,200 acres. Mr. William Berczy, to whom the township of Markham had been assigned, and who had acted in good faith in actually settling a body of immigrants on the land, was ruined by the action of the Council in rescinding the arrangement.

Grants of 1,200 acres each were made to individuals of favored classes, including magistrates, barristers, and executive and legislative councillors who received as much as 5,000 acres each, with additional grants of 1,200 each to their children. From 1791 to 1804 these grants were altogether gratuitous, with the exception of fees sufficient to compensate the officials concerned in passing the grant for their trouble.

In the course of the latter year a scale of fees, proportioned to the extent of the grant, was introduced by the order of the Governor-in-Council, upon the payment of which almost anyone was at liberty to obtain a grant. Privileged persons, such as U. E. Loyalists, militiamen, etc., were exempt from any payment. In 1818, in addition to fees, the performance of settlement duties was required. Changes in the system were made from time to time, generally in accordance with regulations or instructions issued by the Home Government, with the object of checking the prevailing laxity, and securing some substantial return for the lands granted.

When Hon. Peter Robinson was appointed Commissioner of Crown Lands in Upper Canada in 1827, he was instructed by the Lords of the Treasury that all public lands were to be sold by auction, and to be paid for by instalments without interest.

This system was slightly modified in 1833 by requiring the payment of interest on unpaid portions of the purchase money. The ill success of the Government land policy as a means of promoting settlement induced them in two conspicuous instances to delegate to others the disposal of large areas of the Crown Domain. An extensive tract in the western portion of the Province was placed under the entire control of Colonel Talbot, and the whole of the Crown reserves, and 1,100,000 acres in one block were sold to the Canada Company.

The evils resulting from allowing vast areas to fall into the hands of speculators who made no improvement was further aggravated by the policy of setting apart Crown and clergy reserves, the latter constituting nominally one-seventh of the entire Clergy area, but frequently in practice amounting to a much larger proportion. Reserves. The result was to discourage the settler from making a home in the wilderness on account of the large tracts held for speculation, and where the improvements dependent upon co-operative labor could not be undertaken. The Government policy, while it entailed unnecessary hardships and inconveniences upon the settlers, did not in the end benefit the favored classes who were permitted to monopolize extensive areas of land with an eye to ultimate profit. The conditions of occupancy had been made so onerous that there was no sale for the property they had regarded as an easily-acquired source of wealth. On this point, Mr. Buller says:—

"Even during the period, however, within which these grants were made, the grantees began to discover that the very great facility with which land could be acquired rendered its possession well nigh valueless. To settle their grants was impossible without a large immediate outlay, for the purposes of affording settlers the means of communicating with each other and with a market. This work, however, could be undertaken by no one individual with effect, unless the other grantees, across whose lands the road must pass, joined in the work, and even had this been done the practice of making Crown and clergy reserves, and thus withholding from settlement two-sevenths of every township, imposed upon the proprietor of the remaining land so much additional expense for which he could never expect any return. The grants, too, were so utterly disproportioned to the population and wealth of the Province, that even if all the grantees had set to work in good faith to settle their lands according to the terms of the grant, they must have been stopped by their inability to obtain settlers."

This was written more especially with reference to the land practically locked up from settlement in Lower Canada by the operation of the system of leaders and associates, but it was equally true of the results obtained in Upper Canada by the practice of profuse and indiscriminate land granting. Concerning the extent to which the land of the latter province had been parted with by the Government in excess of the demands for settlement, the same writer says:—

"Perhaps, however, the most striking proof of the early improvidence of the Government in its disposal of the waste lands in the Province, is to be found in the fact, that

from 1763 to 1825, during which period the population had slowly grown up to 150,000 souls, the quantity granted or engaged to be granted by the Crown was upwards of 13,000,000 acres, while during the thirteen subsequent years, in which the population increased from 150,000 to 400,000, the quantity disposed of, including the sale of the Clergy Reserves, is under 600,000 acres. A fact such as this needs no comment."

The bearing of this condition of affairs upon the lumber trade, and the management of the forests remaining in the hands of the Crown as a source of revenue, can be very easily appreciated. The land alienated in such extensive areas, far **Timbered Land Grants.** beyond any possible demand for settlement for many years, was in many instances covered with valuable timber. Those engaged in lumbering operations speedily discovered that in many cases it was a good deal more profitable to buy wooded land than to pay even the moderate price charged for timber licenses.

The quantity of cheap unimproved land in the market and the readiness with which grants were obtained, seriously diminished the revenue from licenses, induced reckless and improvident methods of lumbering, and made it profitable to buy land for the sake of stripping it of the growing timber and leaving it waste and unproductive. The principle embodied in repeatedly issued instructions from the Home Government of setting aside permanent forest reserves and confining grants for settlement to such lands as were adopted for agriculture, having been disregarded, much of the area covered by the extensive grants made was capable of producing nothing but timber to advantage and once denuded became practically valueless, until the slow processes of nature should have renewed the forest vegetation.

A few extracts from the evidence taken before the Assistant Commissioners of Crown Lands and Immigration in 1838 which furnished the basis for the Hon. Charles Buller's report, indicates how injuriously the abuse of the land granting system affected the public interests, both in reference to the revenue from timber licenses and the preservation of the forests. They also comprise much valuable information as to the general condition and prospects of the lumber trade at that period. The evidence is given in the form of question and answer, the following being taken from the testimony of John Davidson, one of the Commissioners of Crown Lands for Lower Canada, in relation to matters in that Province.

Q. "According to the price required for timber licenses under the Treasury instructions may it not be cheaper to purchase land for the sake of the timber **Land cheaper than Timber.** merely, than to pay for a license?" **Ans.** "It may be so, and an instance came to my knowledge of an attempt of the kind in the newly surveyed township of Wakefield, which I however defeated by directing the agent not to accept bids, unless from persons whom he believed to be intending settlers."

Q. "Have you then the power of rejecting an offer made to purchase land made at a public auction?"

A. "Under the conditions of sale publicly read by the agent no sale is valid until confirmed by the Commissioner of Crown Lands."

Q. "Do you imagine any land has been purchased with this intention?"

A. "I could not say that no land has been purchased with this view, but no sales have been made in surveyed townships. I cannot bring myself to believe that they have been made to any great extent."

Q. "Have you not reason to suppose that the large purchase of 90,000 acres to which you have referred in Gaspe, was made with this view?"

A. "It was avowedly so, I was myself informed so by the purchasers."

Q. "What was the price at which this land was sold?"

A. "Varying from 1s. 8d. to 4s. per acre."

James Hastings Kerr, a land agent, gave very explicit evidence as to prevalence of the practice of buying land solely for lumbering purposes. Some of the more striking portions of his testimony are here reproduced.

Q. "Have you had an opportunity of acquiring information as to the disposal of timber in the Province (Lower Canada) by the Crown?"

A. "I have."

Q. "Does the system appear to you to be a good one?"

A. "It does not. It does not yield that revenue to the Crown which it ought in fairness to do, and which I believe might without injury to the dealer in timber A bad System. be easily derived from it. The practice within these three years has been for the Crown to dispose of licenses to cut timber at public sale by tender and overbid. The upset prices on timber are determined by the Governor, upon the recommendation of the Commissioner of Crown Lands, and were until last year as follows:—White pine square timber, $\frac{1}{2}$ d. per foot; red pine, 1d. per foot; white pine logs of 12 ft., for deals, 4d. each; spruce pine logs of 12 ft., for deals, 2d. each; red pine logs, $7\frac{1}{2}$ d. each. At the sales of last year the price of white pine logs was increased to 5d. and spruce to $2\frac{1}{2}$ d. This price is even now much less than the Government might fairly ask not only in proportion to the selling price of that timber in England, but also to its value in the Northern Continent of America. At a very early period it is certain that there must be a great demand in the United States for Canadian pine and spruce timber."

Q. "But the prices you have named are only the upset prices for the tender?"

A. "I know of no case where an overbid was made upon the tender, except in one instance, and that was only by mistake."

No Competition
for Timber
Limits.

Q. "Then in point of fact there is no competition at the sale?"

A. "None. There is a perfect understanding among the buyers that none of them shall bid more than the upset price."

Q. "So that in reality the prices called upset prices are fixed prices?"

A. "They are."

Q. "And are in your opinion too low, having reference to the value of the timber in the markets of Canada, Britain and the United States?"

A. "Decidedly so."

Q. "You believe that there will occur soon in the United States a great demand for Canada timber; upon what grounds do you form that opinion?"

A. "I visited the United States in 1836 for the express purpose of ascertaining at the ports of New York and Boston, what encouragement there might be for the importation of manufactured Canada timber, and also with a view to ascertain what supply of pine and spruce timber might yet remain in the United States. With the exception of the State of Maine to the North upon our own border, and of Georgia to the South, at a great distance from us, which latter produces an article of very inferior quality, I became satisfied from very careful inquiry that very little timber of that sort remains in the

U. S. Timber Supplies. States generally, and that even with the two exceptions I have named, the supply will be exhausted in a few years, provided that the demand continues to increase as it has done for many years past, along with the progressive prosperity of the Americans."

Q. "Is the quantity of the best kind of pine, spruce, and oak timber, the property of the Crown of this Province, very considerable?"

A. "I believe it to be so, particularly in the country bordering on the Ottawa, the northern shore of the St. Lawrence, a great distance on the shore of the Saguenay and its tributaries, on the north shore below Quebec, and in the district of Gaspe; sufficient in fact to supply the demand of the United States for many years to come, and if not sold under prices such as might easily be obtained, if better communication was opened with the United States, as to produce a very large revenue."

Q. "Even at the present low rate of timber licenses, is it not often more advantageous to purchase the land where the timber is growing, than to purchase a license to cut the timber upon it?"

A. "It is so decidedly upon well-timbered tracts. I have been employed myself to purchase land with this view. It may be conceived that this is the case when in the districts where land is purchased with this object, the price of a license would amount on the average to about 6s. 8d. per acre, and the average price of land vs. is only about 3s. 2d. per acre. You therefore get your timber at less than Purchase. half price, and have the land remaining when the timber is cut. For example, last year a saw-mill proprietor had cut timber upon a 200 acre lot in which I was interested, in one of the townships south of St. Lawrence. I seized the timber which he had cut, and entered into an agreement with him, by which I received fully 10s. an acre for the trespass upon the timber, allowing him to take all he had actually felled."

Q. "What is the upset price of Crown Land in that township?"

A. "Four shillings. I bought for myself and others all the Clergy Reserves then open for sale in that township in 1836, amounting to about 1,800 acres, at an upset price of 4s. an acre."

Q. "If such be the case, however, any such rise as you appear to contemplate in the price of timber licenses, ought to be accompanied by a corresponding rise in the price of the wild land of the Crown?"

A. "Undoubtedly so."

These utterances, like those which follow, are alike interesting from the historical point of view and significant in their bearing upon the existing situation, as showing how even at that comparatively early date, the American demand for the product of Canadian forests had become a prominent factor in determining the value of our natural resources. When the near exhaustion of the American timber supply is spoken of, it must be borne in mind that the march of Western settlement and the development of methods of transportation had not proceeded far enough to render the pine forests of Michigan and the other wooded areas of the American Northwest available as a source of supply. It is none the less instructive to note, that far-seeing and experienced practical men were beginning to realize that the necessarily increasing timber and lumber requirements of the Eastern States, with their rapidly growing population, should be taken into account in fixing the price of timber-bearing lands so as to secure the increment to the public. .

Thomas Allen Stayner, Deputy Postmaster-General for British North America and a large landed proprietor in both Provinces, replied as follows to the question as to what value should be placed on the wild lands of Lower Canada:—

"Besides the price of lands in the United States I must, in answering this question, have regard to the large quantities of land in the Province held in private hands, much of which is choice land, and in locations most favorable for settlement. There are, perhaps, a million and a half acres of wild land in the possession of individuals, many of whom would be willing to sell at what would be called a low rate for cash, say from 4s. to 7s. 6d. currency an acre. While so much land is wild in this way, it will naturally influence any arrangement for the disposal of the waste lands of the Crown.

"Wild lands vary in value very materially as well as from the quality itself, as from its situation; but there is also another circumstance connected with the question of fixing the value upon waste lands of the Government, which it may be well to bear in mind, that is the timber upon it.

"Until very recently, the timber as an article of commerce was not taken into consideration, either by Government or private holders, but it is now otherwise. Our American Investors. American neighbors have discovered, to their astonishment, that their own resources for pine timber are nearly exhausted, and they are looking with great interest to the lands in Lower Canada and New Brunswick, which possess that valuable article. In the year 1835 speculators from the States of Maine

and New York came into the Province and purchased about a million acres of land said to be wooded with pine or spruce; and there is no doubt but for the financial difficulties which befel the whole of the United States at the close of the year 1835 and commencement of 1836, much more extensive acquisitions of pine and spruce lands would have been made by the Americans; the disposition to acquire those lands is only temporarily suspended, and it is quite probable that in four or five years more the passion will return as strongly as ever.

"Now, according to the scale by which the Americans estimate such lands, they may be considered as worth from two to six dollars an acre, merely for the timber. The question may therefore be, whether this consideration is to constitute an element in the scheme to be devised, and if so to what extent? It should be borne in mind also, that the land most valuable for the timber is seldom of great value for agricultural purposes. Setting aside for the moment the pine and spruce lands, I do not think that a higher rate than 7s. 6d. currency an acre can be put upon the waste lands of the Crown.

The evidence of Charles Shireff, the former agent for the collection of the timber dues on the Ottawa, corroborated the testimony above cited as to the prevalence of the practice of buying timbered lands instead of taking out licenses, and the resultant loss to the revenue.

Q "Does not the present facility of obtaining large blocks of land, and at low prices tend to diminish the amount of this revenue by making it more advantageous to individuals to purchase land for the sake of the timber only, than to pay for licenses?

A. "I should say so. Cases have occurred in which land has been bought merely for the timber, upon a calculation, of course, that by this means the timber would be obtainable at a cheaper rate than if it had been cut under license. I can mention that of a company of Americans, who purchased from private individuals some thousands of acres in the township of Onslow, at the rate of, I think, 10s. per acre, which I do not conceive could bear any proportion to the value of the timber. Many similar cases, though to a smaller amount, have occurred within my knowledge; and the temptation to do this was very great, because when the purchaser had paid the first instalment and obtained his location ticket, he could proceed to cut the timber, and the only penalty for not paying the other instalments was the resumption of the land, about which he was very indifferent. This was unfair to those who cut timber under the licenses."

Q "Has any method occurred to you to prevent the practice?"
Present License System Advised. A. "The only method that has occurred to me is that Government should hold these lands which are generally unfit for settlement and merely sell the timber upon them."

According to a statement made at this investigation by Richard Hill Thornhill, Chief Clerk of the Crown Lands Office for Upper Canada, the gross amount received by the Government of the Province in timber duties from the appointment of the Surveyor General of Woods and Forests in 1827, up to January 30th, 1838—a period of about ten years and a half—was £58,085. 4s. 11d. exclusive of defalcations amounting to upwards of nine thousand pounds. Hon. Charles Buller's report on the Public Lands and Emigration published as an appendix to Lord Durham's report, presents the following conclusions based upon the large volume of evidence presented during the investigation, the general tenor of which may be gathered from the excerpts above quoted.

After briefly reviewing the timber policy of the earlier days of the Province, and the then recent attempts to derive a revenue from the issue of licenses to cut timber, Mr. Buller goes on to say regarding the forests:

"I was unable to obtain any accurate information as to the probable value of this property. From the evidence, however, of Mr. Kerr and of Mr. Shireff, it appears that the quantity of timber upon the waste lands of the Province is practically unlimited, and that, independently of the consumption of this article in England, there exists at present a demand for pine timber in the Northern and Western States of the Union, which may be expected to experience a very rapid increase, and which can only be supplied from the British North American colonies.

" From the evidence of Mr. Kerr and Mr. Davidson and others, it appears that the revenue which, under a wise and careful system of management, might have been derived from this property, has been needlessly sacrificed by the practices adopted in the disposal of public lands. The value of the timber upon an acre of land at the price of government licenses, is frequently more than ten times greater than the amount required to be paid, in order to obtain possession of the land upon which the timber is growing. Payment of the first instalment of the purchase money is alone necessary for this purpose, and before the second instalment is due or any measures are adopted to enforce payment, the timber may be cut down and the land abandoned. To what extent this has been the case it is difficult to determine; but there is no doubt that very large tracts have been purchased for the sake of the timber merely; because the whole purchase money if paid, has been very far less than the price of timber licenses, and because the land would remain in the possession of the purchaser after the timber had been cut. Besides this cause of defalcation in the revenue that might have been derived from this source, there has been no proper inspection on the spot, so that the quantity of timber cut has been very far greater than that for which a license has been obtained.

" The plan which I have proposed of selling the land at a fixed uniform price, and requiring the payment of the whole purchase money at the time of the sale, will prevent Land Sales to a very considerable extent, the purchase of land for the mere sake for Cash Only. of the timber. As the land upon which the most valuable timber grows, is generally of an inferior quality of soil and of no value for agricultural purposes, it may be expected that but little of it will be purchased, and that the whole timber fund will be derived from the sale of licenses. It will therefore be expedient to establish an efficient system of supervision in all the timber districts and by comparing the returns made by the district inspectors of the quantity of timber cut, with the entries at the Custom House of the quantity of timber shipped, some security may be obtained against the frauds which are now practiced in respect of this property.

" It is suggested by Mr. Kerr, that the present price of timber licenses is too low, having regard not merely to the value of the timber in the English market, but also to its price in the United States. Although disposed to concur in this opinion, I do not feel myself warranted in recommending any advance in that price at present upon the only information I now possess, and especially considering the uncertainty which is felt to be attached to the continuance of the present timber duties in England. This is one of the matters which must be left to the special authority which I shall subsequently recommend, to determine from further and more accurate inquiries.

" The present average annual amount produced by the sale of timber licenses in all the colonies appears to be about £24,000, but there seems no reason to doubt that under an improved system of inspection and management the amount might be greatly increased."

The amounts received by the Government as timber dues as well as the considerably larger sums accruing from the sale of public lands were regarded as entirely at the disposal of the Crown, that is to say, the administration of the day without responsibility to Parliament as to their expenditure. They were classed with some other items as "casual and territorial revenue," and kept entirely apart from the funds under control of the Legislature. The introduction of the system of payment for timber licenses almost Disposal simultaneously with that of the sale of the land, very greatly increased the revenue of the province and at the same time aroused strong political feel- of Revenue. ing by reason of the questions involved as to the management and expenditure of this fund. The abuses which speedily arose from the irresponsibility of the executive in the handling of the casual and territorial revenues did much to intensify the popular irritation which found vent in the outbreak of 1837. The principal causes of complaint in connection with the administration of this fund were set out with considerable fulness of detail in a series of resolutions passed by the Upper Canadian House of Assembly on March 18th, 1829, some of which are reproduced.

"Resolved, that the possession of Revenue by the Executive to defray all expenses of the Civil Government, independent of Parliament, is inconsistent with public liberty.

"Resolved, that it appears from the message of His Excellency that the whole of the Estimate for the Civil List can, this year, be defrayed from the Crown Revenue and that the expenditure of about £10,000 per annum, which was defrayed till the year 1827 by grants of the Imperial Parliament, is now also transferred to what is called the Territorial revenue of the Crown, arising from the Canada Company Agreement, over the appropriation of which monies it is denied that the House has any superintendence or control.

"Resolved, that from the accounts in detail of the appropriation of the sum of £10,825 as furnished this House by His Excellency, a copy whereof is annexed, it appears that by far the greater part of that sum has been improvidently misapplied, because independent of the pretensions to a monopoly of the Clergy Reserves the large sum of £2,800 is allotted to the Clergy of the Protestant Episcopal Church, although that church forms a comparatively small proportion of the Christians in this Province, and because there are varicus pensions and allowances to persons who ought not to be burdens on this struggling Province; a salary to a naval officer as a sinecure, a salary to an agent in England, utterly unknown by name, character, duty, service or usefulness to this House or to the country, and other salaries and allowances improvidently paid (with the exception of the Lieutenant-Governor and Judges) to public officers for whom has been provided by this House of Assembly, independent of these extra allowances, such ample salaries and contingencies in years of past extravagance that they ought, in justice to the condition of the province, to be greatly reduced.

"Resolved, that the Provincial Executive have heretofore, in the appropriation and expenditure of public monies, violated that economy which, is in justice due to the people from whom they are raised, have abused the application of the fund improvidently granted by the 56th Geo. III., chap. 26, in aid of the Civil Government; have granted pensions and multiplied offices at the public expense without consent of Parliament, and have incurred and continued wasteful charges and annually increasing expenses in the administration of Justice and in the other departments, under an inveterate system of Executive patronage at the sacrifice of public economy; all which evils have heretofore existed from injuriously infusing into the country and even into the Legislature a spirit of subserviency incompatible with the liberties and interests of the people."

The law of England exempting the subject from all taxes not imposed with the consent of Parliament and securing Parliamentary control over all expenditures, was declared to be the "ancient, common and fundamental law issuing from the first frame and constitution of the kingdom," and it was claimed that as the Provincial Legislature had adopted the laws of England as the rule for decision in all controversies relative to civil rights, that corresponding powers and duties to those inherent in the British Parliament appertained to the provincial body.

This clear and forcible presentation of the case produced little if any immediate effect. The evils complained of were continued despite all remonstrances. In 1835 a select committee of the House of Assembly on grievances, of which William Lyon Mackenzie was chairman, presented a report setting forth the administrative abuses of which the public complained, the following paragraph of which indicates how the absolute control of the executive over the expenditure of a large and increasing portion of the public revenue rendered the Government completely independent of the people's representatives :

"The almost unlimited extent of the patronage of the Crown, or rather of the Colonial Minister for the time being and his advisers here, together with the abuse of that patronage are the chief sources of colonial discontent. Such is the patronage of the Colonial Office that the granting or withholding of supplies is of no political importance unless as an indication of the opinion of the country concerning the character of the Government, which is conducted upon a system that admits its officers to take and apply the funds of the Colonists without any legislative vote whatever."

An agitation on similar lines was meanwhile going forward in Lower Canada and obtained such headway that in 1835 the Earl of Gosford, Sir Charles Edward Grey and Sir George Gipps were appointed as commissioners for the investigation of grievances in Lower Canada. Among the list of complaints presented to this body the question of the control of the revenue occupied a foremost place. The demands made by the House of Assembly of Lower Canada were thus summarized in the instructions forwarded by Lord Glenleg to the commissioners under date of July 17th, 1835.

"After the several gradations through which this question has passed, it has at length assumed the following shape :

The Claims of the Legislature. "As representatives of the people of Lower Canada the House of Assembly claims the right of appropriating to the public service, according to their own discretion, the whole of the revenues of the Crown accruing within the Province. The claim extends to the proceeds of all parliamentary and provincial statutes, whatever may have been the original conditions of these grants; to the funds drawn from the sale of timber and of the waste lands of the Crown; to all fines and forfeitures, and to the income derived from the Seigniorial rights inherited by the King from his royal predecessors. In fine the authority of the Local Legislature over the income and expenditure of the Province is declared to be so extensive, as to embrace every part of that receipt and outlay, and so inalienable as to supersede even the concessions deliberately made in preceding times by the former representatives of the Canadian people."

On January 30th, 1836, Sir Francis Bond Head, who had a short time before assumed the Lieutenant-Governorship of Upper Canada, laid before the House of Assembly the instructions received on his appointment, embodying the answer of the Home Government to the representations made by the House as to the grievances requiring redress. This document in reference to the question of the control of territorial and casual revenues stated that claims precisely identical had been preferred by the Assembly of Lower Canada, and that in the instructions to the Commissioners of Enquiry who visited that Province the views of the Home Government had been already set forth.

The instructions to the Commissioners were therefore appended to the despatch as outlining a basis for the settlement of the question in both Provinces. In this paper the whole subject is treated very fully, the position taken by the Colonial Office being that it was necessary to secure the independence of the judiciary and the principal officers of the Local Government, and that to this end official incomes should be paid, "not at the pleasure of the popular branch of the Legislature, but from adequate funds to be irrevocably pledged for that purpose."

It was urged that alterations on the subject of the emoluments of the chief officers of the Crown, and especially of the Governor, would be derogatory to their character. "The tendency of such controversies would unavoidably be to introduce a disesteem for

Claims of the Crown. those functionaries by exhibiting them in the light of pensioners on the reluctant bounty of the representatives of the people." The officials of the Local Government, it was contended, having frequently unpopular duties to perform, and being called upon to oppose the passions and emotions of the day, should be raised above all influence, and suspicion of influence, of unworthy fear or favor. They should not be looking for their subsistence to the favor of a body which necessarily reflected most of the fluctuating movements of the public mind. "Such are the principal motives," wrote the Colonial Secretary, "which induced me to conclude that the King could not consistently with the interests of his Canadian subjects relinquish, except in return for an adequate Civil List, the control which His Majesty at present exercises over the hereditary and territorial revenue. * * * A temporary cession of the revenue in return for a provision for the chief public officers of the Province for a corresponding period, would be the most satisfactory arrangement."

The despatch took strong ground against transferring from the Executive to the popular branch of the Legislature, the management of the uncleared territory. "His Majesty's confidential advisers," says the writer, "regard as conclusive and unanswerable

the objections which are made to confiding the management of the uncleared territory of Lower Canada to either or both of the Houses of General Assembly, or to persons appointed by them and subject to their control. In the distribution of the different powers of the State the office of settling and alienating the uncleared territory properly belongs to the Executive Government." Any expectations which might have been entertained of a satisfactory settlement of the difficulty on the basis laid down in the Lieutenant-Governor's instructions were speedily dissipated by the bitter controversies which shortly afterwards arose between Sir Francis Bond Head and the dominant party in the Legislature. The popular feeling of irritation was further inflamed by the arbitrary course pursued by Lieut.-Governor Head, and culminated the following year in the 1837. quickly suppressed outbreak led by William Lyon Mackenzie, which, though an utter failure considered as a military enterprise, did much to arouse the attention of the Government and people of Great Britain to the real condition of affairs in Canada and bring about responsible Government.

In the year 1838 the Committee on Finance of the House of Assembly brought in a report on casual and territorial revenue, submitting a draft of a bill appropriating this branch of the revenue, accompanied by a series of resolutions respecting the appropriations to be made therefrom, in accordance with the plan of settlement proposed by the Colonial Office. This measure passed the Assembly but failed to become law, as it did not obtain the concurrence of the Legislative Council. The following year, however, the subject was brought before a Joint Committee of the two Houses, and a bill to appropriate the casual and territorial revenues passed in both branches of the Legislature. The royal assent to the measure was, however, refused, but it was intimated that the objections entertained to it were such as could easily be removed.

Meanwhile the greater question of the union of the Provinces began to engross public attention. In the discussion of the subject the surrender of the casual and territorial revenues in return for the granting of an adequate civil list was one of the points insisted on by the Upper Canada Assembly. The Act of Union adopted by the British Parliament in 1840 in conferring responsible government upon the people of Canada, placed in the control of the Legislature all territorial and other revenues at the disposal of the Crown, subject to certain charges, the principal of which was the civil list for the payment of the salaries of the Governor, Judges and other officials amounting to £75,000.

UNDER THE UNION.

The system of disposing of licenses to cut timber on the Crown domain, which, as has been shown, was managed with great laxity, under the Government of Upper Canada, yielding a mere fraction of the sum which it might have contributed to the revenue under proper regulations, engaged the attention of the administration of the United Provinces at an early date. On the 30th of March, 1842, instructions as to the granting of licenses were issued by the Hon. John Davidson, Commissioner of Crown Lands, to James Stevenson, Collector at Bytown, as Ottawa was then named, with the object of ensuring greater strictness and introducing the principle of competition among lumbermen. The following are some of the more important rules laid down :

"The Licenses to be granted during the present year are to contain the same conditions as heretofore, as it respects the prices for the timber, the terms of payment, and the manner in which the timber is to be measured.

"All Licenses are to be granted for a fixed period from the date of License, after which the right of any person over the limit which it describes is to cease and determine :

To Induce "When application is made by an individual, other than the party who occupied the limit during the preceding year, and where there is no Competition. reason or order to withhold a renewal of license in favor of the person who occupied it during the preceding year, such application shall be suspended until the first of August, unless the person who had the license the preceding year shall, in the meantime, come forward and request a renewal ; then it shall be at your dis-

cretion either to dismiss the first application, or within ten days after the application of the person who worked the limit, offer it at public sale and adjudge it to the highest bidder (the party who held the license the preceding year being entitled to bid first at the upset price), with the condition that the party to whom the limit may be adjudged shall pay the auctioneer's fees, deposit one-fourth of the purchase money, and give sufficient security for the remaining three-fourths before four o'clock of the day of the sale; and in the event of his failing to do so, the limit to be assigned to the next highest bidder who can comply with the conditions of sale.

By Public Sale. "If two or more applications be received on the same day for a limit not worked upon the preceding year, or not worked upon according to the true spirit and meaning of the license granted, the limit shall be offered at public sale within ten days after the applications are received, on the conditions stated in the previous paragraph as to auction fees, deposit and security.

"When sufficient information is laid before you to assume that the terms and conditions of the license, granted for a particular limit, have not been strictly complied with, or that the party is charged with having trespassed on the limits of others, it is at your discretion to refuse, to the party complained of, license to cut timber; but, at the request and expense of the party, you may name a D.P.S. to examine into the complaint, and if his report shall rebut the charge, the License may be renewed or one issued for some other limit.

Amount to be Cut. "The quantity of timber to be inserted in the License, and which the parties bind themselves to take out, is to be estimated at 5,000 feet for every mile in length, and no greater extent of limit than 10 miles is to be licensed to any individual on any one place."

Wilful trespass by license holders upon Crown property not included within their limits was declared to be punishable by the cancellation of the License and the seizure of the timber so cut. District agents in surveyed townships were charged with the duty of protecting from trespass the Crown property within their agencies, the Bytown collector being instructed to furnish them with every assistance to prosecute trespassers.

The provisions above quoted for the disposal of licenses, in certain cases, by sale to the highest bidder, seem to be the earliest practical recognition of the advantages of the auction system, afterwards extended from time to time, and finally adopted altogether with such satisfactory results both to the lumber trade and the public interest, securing to the Treasury the full value of lumbering privileges, while affording exact and even-handed justice to all applicants.

The receipts of the old Province of Upper Canada for timber sales for the year 1839 were £8,244, and for the period commencing January 1st, 1840, and ending 9th February, 1841, £18,881, a difference probably due to irregularity in the methods of collection rather than fluctuations in the trade.

The timber receipts for Canada under the new regime were £37,572 in 1842, £46,301 in 1843, and £28,828 in 1844.

While, as has been shown, the British statesmen who in the early days of the colony directed, or rather endeavored to direct, the course of the Colonial Executive, fully realized the importance of maintaining timber reserves, there is little in the proceedings of the rulers of Canada under the system of responsible government to show that they appreciated, to any extent, the desirability of preserving the forests as a source of future supply. Such, in fact, was the general prevalence of the idea that the timber resources of the country were practically inexhaustible, coupled with ignorance as to the possibility of at the same time realizing a periodical crop and preserving the productiveness of the area from which it was taken unimpaired; that even had more enlightened views been held by those charged with the administration of affairs, they would have met with popular opposition and ridicule. Those who possessed some vague ideas that the work of deforestation was proceeding too thoroughly, and that it might be advisable to call a halt, were not sufficiently practical to effect any good result. One of the earliest, perhaps the very

first public remonstrance against deforestation may be found in the Journals of the Legislative Assembly under the date of May 11th, 1846, in the following paragraph :

"On motion of Hon. Mr. Laterriere, seconded by Mr. Tache. Resolved, that this House will on Wednesday next resolve itself into a committee of the whole House to consider whether it would not be expedient to prevent the sale of timber from off the Public Lands." All that is recorded of the discussion is the curt official entry for the following 3rd day of June to the effect that "the House accordingly resolved itself into the said committee. Mr. Hall took the chair of the committee and after some time spent therein Mr. Speaker resumed the chair." In the absence of Hansard, or even the briefest mention of the matter in the newspaper reports of the period, it may be doing Mr. Laterriere an injustice to class him with the well-meaning but unpractical people who, in the earlier days of the forestry movement, sought to "save the forests" by prohibiting all use of the axe within the limits of the area to be preserved. But the wording of the resolution certainly bears this construction.

New regulations were issued during 1846 when the following notices to applicants for timber licenses appeared in the Canada Gazette.

CROWN LANDS DEPARTMENT,

Montreal, 24th June, 1846.

Notice is hereby given that application for Licenses to cut Timber on the River Ottawa and its tributaries will be received by James Stevenson, Esquire, at Bytown until the fifteenth day of August next.

1st. No new limits will be granted exceeding 5 miles in front by 5 miles in depth, or half way to the next river.

2nd. Present holders of licenses will be allowed to renew them for the ensuing and two more seasons without alteration of limits, but after the 1st May, 1849, all timber berths will be curtailed to the above mentioned sizes; the present occupant having the choice of the part of his present limits which he will be permitted to retain. The surplus will be disposed of as may hereafter be determined upon, of which due notice will be given.

3rd. Licenses are not to be transferable and any subsequent attempt to infringe or evade this regulation will subject the party concerned to the forfeiture of his license and of all moneys paid on account of the same. Applicants to state whether their applications are made for themselves individually or as concerned with others or on behalf of other parties.

4th. All timber berths for which no application for renewal shall have been made by the present owners, or in regard to which the applicant shall have neglected to comply with the conditions of renewal on or before the 15th of August, shall be put up to public sale without further notice on the 1st September next, together with all other Timber Berths for which more than one application shall have been filed, to be adjudged in cases of competition to the party bidding the highest premium for the same, to be paid down at the time of adjudication.

5th. The quantity of Timber to be inserted in the License and which the parties will bind themselves to take out, is to be estimated at 1,000 feet per square mile, upon the price of which a deposit of one fourth will be required before 4 o'clock on the day of sale; if not then paid the Berth to be adjudged to the next highest bidder or next applicant. Bonds as now practiced to be given for the remaining three-fourths, signed by the principal and two sufficient sureties within eight days after; failing which two-fifths of the deposit and license to be forfeited.

6th. It is to be understood that licentiates are to manufacture at least 1000 feet 1000 feet of timber per square mile granted (if to be had within the limits), per Mile. should a less quantity be made a proportionate amount of the deposit will be forfeited and the limits curtailed accordingly.

7th. After the 1st September all vacant timber berths will be granted to the first applicant on his complying with the conditions of sale.

8th. Parties applying for timber limits on unexplored rivers will be expected to furnish a sketch of the same by a sworn surveyor, connected with some surveyed or known point, and describing distinctly the point at which the limits are to commence. Should the sketches so furnished subsequently prove to be incorrect all licenses based upon them will become null and void.

9th. Limits hereafter declared forfeited for non-fulfilment of the conditions stipulated, to be adjudged to the party giving the information and proving the fact to the satisfaction of the department, or if not required by him to the next applicant.

DEPARTMENT OF CROWN LANDS,
MONTREAL, August 14th, 1846.

Notice is hereby given that (with the exceptions mentioned at foot) applications will be received until Thursday, the first day of October next, and Licenses granted by the various District Agents of this Department to cut Timber on the vacant Surveyed and Unsurveyed Lands of the Crown within their respective agencies.

Five Mile Limits. 1st. No New License will be granted exceeding five miles in front by five miles in depth, or half way to the next river.

2nd. Holders of Licenses will be permitted to retain their present limits until the 1st of May, 1849, on complying with the conditions of renewal, but after that period, their limits if larger will be reduced to the above mentioned sizes.

3rd. Licenses are not to be transferable without the sanction of the Department, and any attempt to infringe or evade this regulation will subject the party concerned to the forfeiture of his License and of all monies paid on account of the same. Applicants are to state whether their applications are made for themselves individually, or as concerned with others, or on behalf of other parties.

Auctions. All Timber Berths not covered by Licenses, or for which no applications for renewal shall have been made, will be sold to applicants on the said 1st of October, and in case of competition be adjudged to the party bidding the highest premium to be paid down at the time of sale.

The quantity of Timber to be inserted in the License, and which the parties will bind themselves to take out is to be estimated at 1,000 feet per square mile, upon the price of which a deposit of one fourth will be required before 4 o'clock on the day of sale; if not then paid, the Berth to be adjudged to the next highest bidder or next applicant. Bonds as now practiced to be given for the remaining three-fourths, signed by the principal and two sufficient sureties within eight days after, failing which two-fifths of the deposit and license to be forfeited.

Should a less quantity of Timber be made, than specified in the license, a proportionate amount of the deposit will be liable to forfeiture, and the limits to be curtailed accordingly.

Parties applying for Timber Limits on unexplored rivers will be expected to furnish sketches of the same by a sworn Surveyor, connected with some surveyed or known points, and describing distinctly the points at which the limits are to commence. Should the sketches so furnished subsequently prove to be incorrect, all Licenses based upon them will become null and void.

Limits hereafter declared forfeited for non-fulfilment of the conditions stipulated, to be adjudged to the party giving the information and proving the fact to the satisfaction of the Department, or if not required by him to the next applicant.

After the 1st of October next, all vacant Timber Berths or Tracts will be granted to the first applicant on his complying with the conditions of sale.

Districts Reserved. The Districts excepted from the above regulations are in Upper Canada, the Bathurst and Dalhousie Districts, and that part of the Midland District lying beyond the Northerly outlines of the Townships of Sheffield, Hinchinbrooke and Bedford.

In Lower Canada all the easterly side of the River Ottawa above the Chaudiere Falls, commencing with the Townships of Hull and Wakefield, which will remain as heretofore under the management of James Stevenson, Esquire, at Bytown, to whom application to cut timber, in any of the last mentioned Districts or Tracts must be addressed.

N. B. In consequence of the present depressed state of the Timber Quantity Trade, the quantity of timber to be cut per square mile has been reduced Reduced. for the season from 1,000 to 500 feet—upon which latter amount only the deposit will be required.

It will be observed that while the first of these notices, which applies only to the Ottawa region, absolutely prohibits the transfer of licenses; the second of a later date, which is more general in its scope and excepts the Ottawa section from its provisions, modifies this provision by requiring the sanction of the Department to all transfers. Presumably the condition was similarly relaxed in the territory covered by the first notice also, and it is also probable that the reduction of the quantity of timber to be cut per square mile was generally applicable.

The year 1845 was an exceedingly prosperous one for the lumber trade. There was a heavy demand at that time for our timber in the British market and prices were very remunerative. The quantity of timber brought to market at Quebec that year was 27,702,344 feet, of which the quantity exported was 24,223,000 feet. The temporarily favorable conditions of the trade resulted in a considerable over-production in 1846 and the year following which, coupled with a falling off in the British demand, created a serious depression in the industry.

The regulations then in force in the Crown Lands Department contributed not a little to unduly stimulate production by requiring the manufacture of a large quantity of timber on every limit, regardless of the requirements of the market or the convenience of the operator, upon penalty of forfeiture of the limit. At the same time the timber production of New Brunswick was very greatly increased, coming into competition with the Canadian output, while the general commercial depression in Britain caused a great falling off in consumption.

On January 30th, 1849, the Legislative Assembly appointed a select Committee, composed of Mr. Scott, of Bytown; Hon. Mr. La Terriere and Messrs. Lumber Trade Egan, Johnson, Bell, Hall, Flint and Holmes "to enquire into and re-Commission. port upon the state of the Lumber Trade, the cause of its present depression, the protection of the forests from unnecessary destruction, and upon all other matters connected with the lumbering interest of this Province."

The evidence taken before this committee threw a good deal of light on the condition of the trade and the particulars in which a reform of the license system was urgently required.

W. W. Dawson, a leading lumberman of Bytown, gave the following testimony:—"The first great blow then, which the trade received in 1846, was caused by over-production, for had the supply been in the proportion to the demand there is no reason to believe that prices would have ruled one fraction lower than they did in the previous year, nay, it is probable that they would have ruled higher, as, notwithstanding the high prices the British merchants paid for Canadian timber in 1845, they had found their dealings therein sufficiently satisfactory to induce them to increase their demand for it in 1846.

"In the two succeeding seasons, 1847 and 1848, although other causes entered into combination with it, the over-production of 1846, hanging like a dead weight on the market, still operated as a principal depressing influence. Thus in 1847, including the quantity brought to market and the stock on hand, there was a total supply of 44,927,253 feet of square timber to meet a demand for 19,060,880, and in 1848 there was in like manner a total supply of 39,447,776 feet, to meet a demand for 17,402,360. The other causes which have combined to depress the trade in the two latter years, resolve themselves so

far as we are concerned into one, viz., a decreased demand. The causes which have led to the decreased demand we have no control over, and I shall briefly advert only to what seem to be the most apparent. In the first place our own large export of 1845 and 1846 may have tended in some measure to overstock the British market; in the next place it would appear that an enormous supply has been thrown upon the market in these latter years from the Province of New Brunswick, quite unprecedented at any former period. What influence the Baltic trade may have had I am not very clearly aware, as it does not appear that at least of square timber, there has been any great increase of the quantity thrown upon the market from that quarter. The greatest and most apparent cause of all, however, is to be found in the diminished consumption arising from the depressed state of commerce in general in Great Britain and throughout the whole of Europe.

"It is therefore clear that the depressed state of trade was solely owing to over-production in 1846, and to that primary cause combined with a decreased demand in 1847 and 1848.

Objections to the System. "I believe that there were other causes arising out of the pernicious influence exercised over the government of the trade by the absurd policy sometimes pursued by the Crown Lands Department (as it was then conducted), the particulars of which, as far as they relate to this question, may be classed under three heads, viz.:—

1. The order to manufacture a certain large quantity of timber upon every limit, under penalty of forfeiture.
2. The threatened sub-division of the limits, and
3. The want of any equitable or decisive action on the part of the Department with respect to disputed boundaries, etc.

"The first of these speaks for itself and needs no explanation, as it is evident that those who considered their limits valuable, or had invested large sums in their improvements would rather risk the remote and at that time unforeseen consequence of overdoing the trade, than yield any just title they possessed. It is at all events impossible to deny some influence to this cause, when we find these two facts staring us in the face—first fact, the Government ordered the trade to be overdone—second fact, the trade was overdone.

"With regard to the second, the sub-division of the limits, there were indeed some who made light of or laughed at it, knowing that it would either be rescinded before it came into force, or that they could evade it, but a greater number were carried away by the idea that, as after a stated period they would have to give up a part of their limits, they ought to make the most of them while they had them, especially as the times were then good. It thus afforded an excuse for some and added stimulus to others, to increase their business; very few in the lumbering fever of that period, pausing to consider the ultimate consequence.

"The third of these causes may appear a strange one, but it is easily explained. There were cases of disputed boundaries which for want of any decisive action on the part of the Government, even when applied to by all the parties, resulted in appeals to

The Right of Might. physical force. This, of course, induced the parties who struggled for a physical superiority in these remote parts entirely beyond the reach of law, to double, treble, or quadruple the number of men they would otherwise have employed, and as such a force, when on the ground, would of course be used to the most advantage, they would thus double, treble, or quadruple the quantity they would otherwise have manufactured. That this has been the case to some considerable extent I am positively aware, as I could point to one instance in which certain parties who would not otherwise have got out but a limited quantity, but who were by this means forced into a business of half a million feet or upwards. While, therefore, the rage for lumbering consequent upon the large profits of 1844 and 1845, must be allowed to have been the main cause of the over-production, these other causes aided very materially in producing that result."

In reply to the question—"Do you conceive that there is any danger of a monopoly of licenses to cut timber on the waste lands of the Crown. What means can be taken to prevent it?" Mr. Dawson said :—

"There is no danger of a monopoly of the waste lands of the Crown on the Ottawa, the extent being too great to permit of the possibility of such a thing, but there is danger of monopoly occurring, as it has already occurred in particular instances. The remedy is easily applied as it only requires that the title to the renewal of license should Right to depend upon actual occupation. This has hitherto been the rule, but the Renewal standard of occupation has been too high, thereby injuring the trade materially while in particular instances the object has been defeated by making special cases in which the rule was not enforced. I think that this question might be favorably affected by a change in the present system of deposits, which would at the same time afford a very considerable degree of relief to those engaged in the trade.

At present a deposit of one-fourth of the duty on the quantity required to be taken out, is exacted on the issuing of every license for the season's operations, the amount being remitted the next year upon the collection of the duty on the actual quantity which may have been cut. Instead of this I would propose that a Ground Rent ground rent of 2s. 6d. per square mile, as a final payment should be Proposed. levied annually for every limit upon issuing the license for that year's business; as a preventive of monopoly I would then double the ground rent in case of non-occupation, and continue doubling it every year the limit remains unoccupied. I would scarcely venture in the present state of trade to propose the ground rent system, if it were to constitute an additional impost upon the trade, but if a corresponding degree of relief could be afforded in any other way it would be most satisfactory and efficient."

With regard to the size of the timber limits Mr. Dawson, referring to a notice published in the *Official Gazette* in 1846, that after the 1st of May, 1849, all limits of a larger extent than five miles should be so sub-divided that none should exceed that size, expressed himself as follows :—

"The object of reducing the size of all limits to five miles, I believe to have been pretty much the same as that of the clause requiring the manufacture of a large quantity, viz., to make every space of five miles for which license should issue produce a raft of timber annually, a theory which, I should hope, has been sufficiently exploded by its bitter effects. When the trade is in a prosperous condition, the profits are sometimes very large, and this naturally gives rise to an excessive spirit of speculation, which speedily brings ruin upon all concerned. A wise policy, therefore, would rather supply some check upon, than add a stimulus to, this speculative spirit, by discouraging instead of facilitating and urging on an over production, especially as it is hardly possible to conceive of any danger to the opposite extreme, as the facilities will always be such in spite of any discouragement, as to keep the supply in excess of the demand."

Speaking of the system then in vogue of estimating and collecting timber dues Mr Dawson said :

"Anything more unjust in its principles and application or more expensive in its operation could scarcely be invented." He proceeded to give a striking illustration of its unfairness, selecting the duties upon red pine, the principle, as he Unfair Measurements. remarked, being the same as regards all kinds of timber. The amount of duty levied on red pine was one penny per cubic foot, the timber not being measured but only counted, and the amount made up from a fixed and arbitrary average of 38 feet per stick.

"The real average of the red pine rafts taken to Quebec varied from 26 feet or under to 50 feet or upwards per stick, the large being charged precisely as much duty as the small. In one instance a raft of the largest sized red pine ever seen there averaged 68 feet per stick. One of the rafts of small timber the previous season averaged 26 feet per stick.

"The owner of the large raft, assuming the duty to be a penny per foot, had exactly thirty feet in every stick for which he had to pay nothing, while the owner of the small raft had to pay for twelve feet more on every stick than it actually contained." Considering the duty as a charge ad valorem he went on to show that as the large raft was sold for 1s. 3 $\frac{3}{4}$ d. per foot, and the small raft for 5d. per foot, the owner of the former paid about 3 $\frac{1}{2}$ per cent of the whole proceeds of his timber to the Government, while the proprietor of the small timber was taxed something over 29 per cent on its value. This was admittedly an extreme case, but the principle which rendered such a discrepancy possible operated throughout—Mr. Dawson went on to say :

"The remedy for this, as far as making the burden fall more equally upon those paying Crown dues for their timber, is very simple, and would consist in collecting the amount according to the actual number of feet instead of on the number of pieces as now practised. . . . There is, however a more important measure in view which should supersede all the abuses of the present system, and at the same time afford a great degree of relief to the trade at large. This measure is the same as that now in force and which has been found to work so well in New Brunswick, and should consist in imposing a small duty on all timber clearing at the Custom House, which with the proposed ground rent, would stand in lieu of all present charges. One shilling per ton in this way would produce a much larger revenue than that now derived from timber."

Nearly all the lumbermen examined, including John Porter and Joseph Aumond, of Bytown, Peter Aylen of Aylmer, and Ruggles Wright of Hull, agreed in advocating a ground rent on timber limits in order to prevent monopoly, some favoring five shillings per square mile, while others were disposed to consider 2s. 6d. sufficient. They were practically unanimous as regards the injustice of the system in vogue, and the facilities it presented for fraud, while as to the size of the limits there appeared to be much difference of opinion.

William Harris, of Bytown, pointed out how the system of levying dues entailed a loss to the revenue and encouraged wasteful methods of lumbering.

"After all the large timber is cut off a limit, so many trees, blocks, chips, etc., are down on the ground, that pine woods are subject to and are frequently destroyed by fire; thus young and small timber reserved in the woods and Fires. is totally destroyed; whereas had the lumberman been induced to cut it in the first place by an ad valorem duty, he would avail himself of his opportunity, of his advantage to do so, for railroad framing, lath-wood and other purposes where small lumber can be employed. Under the existing system an immense revenue is lost to the Crown, and a serious drawback is inflicted on the lumberman. Under this system, as large dues are exacted for the smallest tree as the largest—a tree of 12 or 14 feet would be as expensive to cut as one of 60, which amounts to prohibition of cutting small timber. Were an ad valorem duty imposed instead of the present dues, a considerable amount of duty for masts and spars, over the amount collected would be obtained. Instead of paying 3s. 2d. for a stick available for masts worth say £20, one-eighth per cent. should be obtained, and for a red pine spar worth £10 a like percentage, which would make a material difference in favor of revenue derivable from this source. Spruce, black birch, hackmatack for sleepers for railroads, and other small timbers would be taken also, which are now rotting in the woods. Spruce would do for booms, birch for cabinet work, and very large quantities of this species of timber is to be met with very far north on the Ottawa, hitherto untouched. * * * Under

Suggested Changes. the present system, dealers in square timber pay 2s 1d. for every tree—the dealer in sawed lumber 1s. 3d., making a difference in the revenue of 1s. 8d. to the tree, and frequently more, as all trees do not produce three standard logs—

a loss arises to the revenue by counting logs instead of measuring them; the square timber manufacturer takes the whole of the tree, the deal manufacturer nothing but the clearest stuff, leaving all trees and parts of trees having the slightest appearance of knot or flaw in the wood abandoned to rot or fire. An advantage over the square timber maker should be had by the deal maker, inasmuch as he spends in his business in the country, more capital than the square timber maker, but not to the unfair extent now existent."

The first Report presented by the Select Committee on the Lumber Trade, considered the question of the establishment of a boom or depot at Quebec for the reception or safe-keeping of rafts on their arrival at that port, recommending such a step on the ground that the existing booms or depots were in the hands of parties interested in the shipping trade, who took advantage of their position in compelling the payment of such dues as they thought proper, and having an understanding with each other injurious to the manufacturer and restrictive of trade.

The Second Report, in which the broader question in connection with the regulations of the Lumber Trade and the cutting of timber on the public domain are dealt with, is as follows :

COMMITTEE ROOM, 18th April, 1849.

Your Committee, in the prosecution of their inquiries, have taken considerable pains to ascertain the state of the lumber trade, and the causes which have tended to its present ruinous condition. The general depression of all commercial matters, both in this Province and in Europe, has of course operated injuriously upon the trade, but Your Committee conceive that much might have been done by a more judicious management of the waste lands of the Crown (from which a large proportion of the timber taken to market is obtained) by wholesome regulations for the granting of licenses, by a more equitable exaction of duty, and by less oppressive duties upon articles imported for the exclusive use of the trade.

Important Report. From the evidence adduced it appears to Your Committee that the present depression of trade has been caused by the over-production of 1846, to the extent of 13,000,000 feet ; in the fall of 1847 the surplus remaining in Quebec was still greater ; in 1848 it had but slightly diminished, and it is likely for the next year, and probably longer, to have an injurious effect upon the trade ; this great increase of manufacture, no doubt, was induced by the enormous profit of 1845, and the supposition that large quantities of our timber would be required in the construction of railroads then projected in Great Britain and other parts of Europe. Another cause of increase in the manufacture, which however would apply chiefly to the Ottawa country, was a regulation of the Crown Lands Department requiring the manufacture of a certain quantity of timber on each "limit" whether or not it suited the occupier, under penalty of forfeiture. The tenure of the "limits" was also of so uncertain a nature that many of the holders were induced to manufacture as much as possible with a view of deriving the full advantage from their improvement so that they might, before forfeiture or change of system, have manufactured all the timber fit to be taken to market, and thus have defeated propositions then mooted for the division and re granting of all limits held under Crown licenses from year to year ; both of the above regulations have been suspended for the last two years, but not until the consequences had been severely felt, and the effects of which are still apparent in the large stock of timber on hand, and which has been a dead weight on the trade since 1846.

Your committee can suggest no remedy to prevent over-production : the ease with which the quantity of timber can be increased, resulting from the unlimited extent of the lumbering country, and the fact that little or no mechanical skill is required in its manufacture, renders its production commensurate only with the means of the manufacturer and some few natural causes, such as the fall of snow, spring floods, etc., etc.

Your Committee are, however, of the opinion that the plans suggested by several witnesses examined before them, of abolishing the present system of granting licenses,

Ground Rent and Export Duty having due regard to the rights of the present occupants, and the issue upon the terms of a ground rent, as proposed by Messrs. Aumond, Porter, Dawson, Russell and others, and the adoption of an export duty in lieu of the present charges, as now in use in the Province of New Brunswick, would have the effect of relieving the manufacturer from the oppressive burden of deposits on the issue of licenses and the payment of the duty on the timber reaching the market or soon after, without having any or much effect upon the revenue or the rights of private parties owning timbered lands.

In the event of this plan being considered impracticable, Your Committee begs leave to suggest an alteration in the collection of duty, by the substitution of actual measurement instead of the system now in use, of the payment of so much per stick, without reference to its size ; this would have the effect of equalizing the duty on all sizes of timber, whereas at present the stick containing one hundred feet or more pays no more to the revenue than the one containing twenty feet or less, although the large stick is often one-third more valuable per foot than the small one ; an increase in the revenue would thus be gained, and an impetus be given to the manufacture of the smaller sizes of timber for railroad and other purposes, which cannot at present be profitably manufactured, and which leads to the destruction of the larger sizes of timber for uses for which the smaller kind would suit as well, and which the present system prevents being manufactured ; nor would the manufacture of small timber have the effect of destroying forests from which supplies of large timber might be drawn, as it is a fact that in many situations there are large tracts of country covered with small timber, which has arrived at its full growth, and might be a source of wealth to the lumberman and revenue to the Province, if its manufacture was not virtually prohibited.

Your Committee would also suggest the reduction of the present establishment for the collection of timber duties, and the management of Slides upon the Ottawa, and the remodelling of the various offices, as suggested by the evidence of the parties above referred to, by which a saving to the Province of upwards of £1,000 per annum might be effected.

All of which is respectfully submitted.

JOHN SCOTT,
Chairman.

THE FIRST CROWN TIMBER ACT.

The immediate outcome of the action of the Select Committee was the adoption, during the same session, of the first Canadian Legislative enactment on the subject of timber licenses, which, with the regulations of the Crown Lands Department, issued in accordance with its provisions, practically forms the point of departure from which our present system has been developed. It has, therefore, been considered advisable to present both in full, together with the form of license appended to the regulations.

An Act for the Sale and Betterment of Timber upon the Public Lands :—

“Whereas it is deemed expedient and proper to provide by law, as well for the sale of the Timber growing on the Public Lands of the Province, as for the protection of the said timber against the frequent and extensive depredations committed upon it in various parts of the Province : Be it therefore enacted by the Queen’s Most Excellent Majesty, by and with the advice of the Legislative Council and of the Legislative Assembly of the Province of Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliaments of the Province of Upper and Lower Canada, and for the Government of Canada, and it is hereby enacted by the authority of the same : That it shall and may be lawful for the Commissioner of Crown Lands, or any officer or agent under him, duly authorized to that effect, to grant licenses to cut timber on the

ungranted lands of the Province at such rates and subject to such Regulations conditions, regulations and restrictions as may from time to time be Subject established by the Governor of the Province, by and with the advice of to Change. the Executive Council, and of which due notice shall be given in the Canada Gazette. Provided always that no license shall be so granted for a longer period than twelve months from the date thereof : And provided further that if in consequence of any incorrectness of survey, or other error or cause whatsoever, a license shall be found to cover grounds already included in a license of a prior date, the license last granted shall become null and void in so far as it may interfere with the one previously issued, and the holder or proprietor of the license so rendered For One null and void shall have no claim whatsoever upon the Government for Year Only. indemnity or compensation by reason of such cancellation.

2. And be it enacted, That the licenses so granted shall describe as accurately as circumstances will permit the ground or grounds upon which the Timber shall be cut and shall be held to confer, for the time being, on the nominee, the right to take and keep possession of the premises described to the exclusion of all other parties, subject to such regulations and restrictions as may be established; and such licenses shall have the effect of vesting in the holders or possessors thereof all rights of property whatsoever in all such trees, timber and lumber as shall or may be cut upon or within the limits of any such license during the term thereof, whether such trees, timber and lumber shall have been cut by or under the authority of the holder or proprietor of such license, or by any other person, with or without his consent, and such licenses shall be deemed sufficient authority to entitle the holders or proprietors thereof to seize or cause to be seized, by way of re-vendication, *saisie re-vendication*, or otherwise, such trees, timber or lumber, where the same shall be found in Canada in the possession of any unauthorized person, and shall be deemed sufficient authority to institute any action or suit at law or equity against any wrongful possessor or trespassers, as well as to prosecute all trespassers and other offenders to punishment, and to sue for and recover damages if any shall have been sustained, and all proceedings pending at the expiration of any such license shall or may be continued and carried to final termination in the same manner as if said license had not expired.

3. And be it enacted, That all persons obtaining licenses shall, at the expiration of said license, make to the officer or agent granting the same, or to the Commissioner of Crown Lands, a return of the number and kinds of trees cut, and of the quantity and description of sawlogs, or of the number and description of sticks of square timber he has manufactured and carried away under such license, which statement shall be sworn to by the proprietor of the license, or his agent, or by his foreman or principal man, before one of the justices of the peace, who are hereby authorized to administer all oaths required by this Act; and persons refusing or neglecting to furnish such statement, or evading or attempting to evade any regulation hereafter to be established by Order-in-Council, shall be held to have cut without authority, and the timber made shall be dealt with accordingly.

4. And be it enacted, That all timber cut under licenses granted shall be held liable for the payment of the dues established thereon, so long as and wheresoever Subject the said timber, or any part of it, may be found within the limits of the to Seizure. Province, whether in the original logs or manufactured into deals, boards, or other stuff, and it shall be lawful for all officers or agents entrusted with the collection of such dues to follow all such timber and seize and detain the same wherever it may be found until the dues are paid or satisfactorily secured.

5. And be it enacted, That bonds or promissory notes, which may be taken for the amount of dues either before or after the cutting of the timber, as collateral security or to facilitate collection, shall not in any way affect, or invalidate the lien of the Crown on any part of the timber, but the lien shall subsist in full force until the dues are actually discharged.

6. And be it enacted, That if any timber so seized and detained for non-payment of dues, shall remain more than twelve months in custody of the agent or person appointed to guard the same, without the dues and expenses being paid, then it shall be lawful for the Commissioner of Crown Lands, with the previous and special sanction of the Governor-in-Council to that effect, to order a sale of the said timber to be made after sufficient notice, and the balance of the proceeds of such sales, after retaining the amount of dues, and costs incurred, shall be handed over to the owner or claimant of such timber.

7. And be it enacted, That each and every person who without competent authority shall cut, or who may employ or induce any other person or persons to cut, or who shall assist in cutting any timber of any kind whatsoever, on any of the Trespass. Crown, Clergy, School or other Public Lands of the Province, or who shall remove or carry away any Merchantable timber of any kind so cut from any of the Public Lands aforesaid, shall not acquire any right to the timber so cut, or claim to

any remuneration for cutting, or preparing the same for market, or for conveying the same to or towards the market, but he shall in addition to the loss of his labor and disbursements, forfeit a sum of fifteen shillings for each and every tree, rafting stuff excepted, which shall be proved he cut or caused to be cut or carried away, which shall be recoverable with costs, at the suit, and in the name of the Commissioner of Crown Lands or resident agent, in any Court having jurisdiction in civil matters to the amount of the penalty; and that in all cases under this Act, it shall be incumbent on the party charged to prove license or authority to cut, and the averment of the party seizing or prosecuting that he is duly employed under the authority of this Act, shall be deemed sufficient proof thereof, unless the defendant shall prove to the contrary; provided always that the penalty of fifteen shillings per tree shall only be recoverable when the timber or saw logs made have been removed out of the reach of the officers of the Crown Lands Department or it shall otherwise be found impossible to seize the same.

8. And be it enacted, That whenever satisfactory information supported by the affidavit of one or more persons, made before a Justice of the Peace or before any other competent party, shall be received by the Commissioner of Crown Lands or any other officer or agent of the Crown Lands Department, that any timber or quantity of timber has been cut without authority on Crown, Clergy, School, or other Public Lands and describing where the said timber may be found, it shall and may be lawful for the said Commissioner, officer or agent, or any one of them, to seize, or cause to be seized, in Her Majesty's name, the timber so reported to be cut without authority, wherever it may be found within the limits of the Province, and to secure and place the same under proper custody, until such time as a decision can be had in the matter from competent authority; Provided always that wherever the timber so reported to have been cut without authority on the Public Lands aforesaid, without license, has been made up with other timber into a crib, dam or raft, or in any other manner has been so mixed up at the mills or elsewhere, as to render it impossible or very difficult to distinguish the timber so cut on the lands aforesaid without license, from other timber with which it may be mixed up, the whole of the said timber shall be held as having been cut without authority on Public Lands, and be liable to seizure and forfeiture accordingly until satisfactorily separated by the holder.

9. And be it enacted, That it shall and may be lawful for any such officer in the discharge of his duty to call in such lawful aid and assistance in the name of the Queen as may be necessary for securing and protecting the timber so seized: and if any person or persons whatsoever, shall, under any pretence, either by actual assault, force or violence, or by threat of such assault, force or violence, in any way resist, oppose, molest or obstruct any officer, or person acting in his aid or assistance, in the discharge of his or their duty, under the authority of this Act, such person or persons being convicted thereof shall be adjudged guilty of felony and shall be punishable accordingly.

10. And be it enacted, That if any person or persons whatsoever, whether pretending to be the owner or not, shall either secretly or openly, and whether with or without force or violence, take or carry away, or cause to be taken and carried away, any timber which shall have been seized and detained as subject to forfeiture under this Act, before the same shall have been declared by competent authority to have been seized without due cause, or without permission of the officer or person having seized the same, or of some competent authority, such person or persons shall be deemed to have stolen such timber, being the property of Her Majesty, and to be guilty of felony, and liable to punishment accordingly; And that whenever any timber shall be seized for non-payment of duties, or for any other cause of forfeiture, or any prosecution shall be brought for any penalty or forfeiture under this Act, and any question shall arise whether the dues have been paid on such timber, or whether the said timber has been cut on other than any of the Public Lands aforesaid, the burden of proving payment, or on what land the said timber has been cut, shall lie on the owner or claimant of such timber, and not on the officer who shall seize and stop the same or the party bringing such prosecution.

11. And be it enacted, That all timber seized under this Act shall be deemed and taken to be condemned, unless the person from whom it was seized, or the owner thereof,

shall, within one calendar month from the day of the seizure, give notice to the seizing officer, or nearest officer or agent of the Crown Lands Office, that they claim or intend to claim the same; failing such notice the officer, or agent seizing or causing to be seized shall report the circumstances to the Commissioner of Crown Lands, who shall or may order the sale of the said timber by the said officer or agent, after a notice on the spot of at least thirty days; Provided always that it shall and may be lawful for any Judge having competent jurisdiction, whenever he may deem it proper to try and determine such seizures, and to order the delivery thereof to the alleged owner on receiving security by bond with two good and sufficient sureties, to be first approved by said agent, to pay double value in case of condemnation, which bond shall be taken to Her Majesty's use in the name of the Commissioner of Crown Lands, and shall be delivered up to and kept by such Commissioner, and, in case such seized timber shall be condemned, the value thereof shall be forthwith paid to the Commissioner of Crown Lands, or agent, and the bond cancelled; otherwise the penalty of such bond shall be enforced and recovered.

12. And be it enacted, That if any wilful false oath be made in any case where, by this Act, an oath is required or authorized, the party wilfully making the same shall be guilty of wilful and corrupt perjury, and be liable to the punishment provided for that offence; and any persons availing themselves of any false statement or oath to evade the payment of duties shall forfeit the timber on which duty is attempted to be evaded.

13. And be it enacted, That parties maliciously cutting or loosening Booms, or breaking up or cutting loose Rafts or Cribs, shall be guilty of a misdemeanor, punishable with fine and imprisonment of not less than six months.

14. Provided always and be it enacted, That nothing in this Act contained shall be construed as in any way invalidating or affecting licenses already granted or any obligation contracted for payment of dues under such licenses, or to invalidate or effect the lien of the Crown on any timber cut upon Public Lands now within the limits of the Province, and upon which the dues heretofore exacted have not been paid, notwithstanding any bond or promissory note which have been taken for the amount of such dues.

REGULATIONS.

Department of Crown Lands,

Montreal, 5th September, 1849.

Notice is hereby given that from and after the First of October next Licenses agreeable to the accompanying form will be granted, at all seasons, to cut timber on the vacant lands of the Crown, subject to the following conditions and regulations, sanctioned by His Excellency the Governor General in Council, in addition to the requirements of the Act, 12 Vict., Cap. 30:

1st. For the River Ottawa and its tributaries above Bytown, including the districts of Bathurst, Dalhousie and that part of the Midland District lying north of the townships of Bedford, Hinchinbrooke, Kennebec and Kaladar, applications are to be made in writing to James Stevenson, Esquire, Crown Timber Office, Bytown, and for other parts of the Province to the respective Crown Land Agents, distinctly describing the space or limits for which the license is required, and furnishing sketches when required, connecting with known points, and drawn to scale.

2nd. No timber berth or location will be licensed in unsurveyed lands exceeding 10 miles in length by 5 miles in depth, or exceeding an area of 50 square miles, Size of Berths. and half that size in surveyed townships; in the latter case, the lots and concessions required will have to be specified, limits to be confined to one side of rivers wherever practicable. All licenses to expire on the 30th April following the date thereof. Consecutive limits may be held by the same individual.

3rd. The timber cut shall be paid for at the following rates:

White pine square timber.....	½d. per foot.
Red " " "	1d. " "
Basswood and cedar.....	½d. " "
Crown Oak	1½d. " "
Dues. Elm, birch and ash.....	1d. " "
Cordwood (hard).....	8d. per cord.
Cordwood (soft).....	4d. " "
Red pine logs, 12 feet long.....	7d. per log.
White pine logs, 12 feet long.....	5d. " "
Spruce	2½d. " "
Each stick of white pine to be reckoned as containing.....	70 cubic feet.
Red pine.....	38 " "
Oak	34 " "
Elm, ash and birch.....	34 " "
Cedar and basswood.....	34 " "

Railway timber will be taken at actual measurement, provided it does not average more than half the regular size, or on the party exhibiting a contract and specifications for such timber corresponding to the timber in his raft.

All square timber, logs, deals, boards or other stuff made up into rafts or cribs, or leaving the district in any other form, to be submitted to counting or actual measurement whenever it may be deemed advisable.

Statements under oath to be furnished of the kinds and quantities of timber and logs cut and carried away.

4th. Applicants for license will be required to make a deposit of one-fourth of the duty on the quantity of timber to be made, which is to be estimated at the Amount rate of 500 feet per square mile, or on the quantity proposed to be made, if to be Cut greater, giving bonds with security for the remainder. No license to be estimated for less than 2,000 feet of timber. Saw log limits to be estimated as square pine timber.

Applicants neglecting to comply with this condition within the period of three months in the Bytown Timber Office, and one month in any other agency, from the date of the receipt of their application, will lose the claim to the limits, which will fall to the next applicant. Deposits will in no case be returned, and only allowed in reduction of dues the first or second season after the date of the License, and not afterwards. Licenses granted on erroneous descriptions or sketches furnished by applicants may be declared null and void by the office, whenever deemed necessary, and parties carrying on operations under such licenses after being required to desist will be considered as trespassers and subject to the penalties of the Timber Act.

5th. Transfers of limits to be in writing and if not found objectionable by the Crown Lands Department or Timber Agent, to be valid from the date on Transfers. which they may be deposited in the hands of the latter, but no transfer to be valid until after one year's actual occupation by the parties transferring them. It being however well understood that in granting Timber Licenses the Government contract no other obligation than that of allowing the party concerned to cut and carry away the quantity of timber mentioned in the license if found within its limits.

6th. Squatters or other occupants of land without authority cutting timber or saw-logs thereon without License (except for the necessary building or clearing Squatters. and fencing) or others doing so by their permission, will be subject to the penalties established by law for cutting timber without a license. Timber cut on land being purchased, but not all paid for, to be collected by Government in part payment of the land.

7. Persons refusing or evading the payment of slide dues or duties on their Timber, or the final settlement of bonds for the same before giving it away, or in any default

with the office ;—also persons taking violent possession of disputed grounds before obtaining a decision in their favor, and parties refusing to comply with the decisions of Courts or of Arbitrators or the regulations of this Office—or who forcibly interrupt surveyors, shall be refused further licenses and their limits become disposable to others on the expiration of their licenses.

8th. Licentiates who shall have duly occupied their limits, and who shall have strictly complied with all the requirements of the office, will be considered **Claims to Renewal.** as having a claim to the renewal of their license in preference to all others, on their making application to that effect in writing, on or before the 31st

May, and depositing the money and bonds required on or before the 30th September (excepting that for this season they will be received until the 31st December) failing which the limits to be considered vacant, and to be disposable by Public Sale on the 10th day of October following, or subsequently to the first applicant.

9th. Unless in seasons excepted by special notice, limits upon which the holder will make less than an average of 500 feet of timber, or 20 saw logs per square mile, or upon the entire extent of which (if less than four superficial miles) he will make less than

~~2,000~~ 2,000 feet of timber, or less than 100 saw logs, shall be considered as **Proof of Occupation.** not having been duly occupied, and will, after the former owner has had an opportunity of being heard in opposition, be granted to the first applicant pleading such non-occupation, on or before the 31st May, and proving same by the Certificate of a sworn surveyor on or before the 31st July following. Should the statement on oath required by the Timber Act not be made when required, or should it show that the limits have not been duly occupied, a surveyor's certificate will not be required. Provided, however, that if 250 feet of timber or 10 saw logs are proved to have been made per square mile, the holder of the said limit shall be entitled to retain one-half of the same, which shall then be divided under the directions of the office at the expense of the former holder, into two equal halves of which the said holder shall have his choice, leaving the remainder to the new applicant.

10th. Parties having rivers to clear or other improvements to make to render their berths available, will be considered as having duly occupied the same, if they establish to the satisfaction of the office, having laid out in such improvements during the season a sum averaging at least £6 per square mile, and provided that the entire amount be not less than £24, even for the smallest limit.

N. B.—Present holders of timber berths under license will be entitled on the foregoing conditions to renew their licenses for the same, on sub-dividing such **Licenses to be Renewed.** as may exceed the extent sanctioned by the present regulations, and making their applications on or before the 31st of May next; but all renewals of licenses shall be subject to such modifications as may be found necessary to settle or obviate disputes.

FORM OF LICENSE.

By Authority of the Hon. the Commissioner of Crown Lands for the Province of Canada, and for and in consideration of the payments made and to be made to Her Majesty as secured by a bond of this date; I do hereby give unto **and unto**

Agents and Workmen full power and license to cut

upon this Location described on the back hereof by and to hold and occupy the said Location to the exclusion of all others, except as hereinafter mentioned from to 30th April, 18[—], and no longer, with the right of conveying away said timber through any ungranted or waste lands of the Crown.

And by virtue of this License, the said Licentiate has a right by the Provincial Statute 12th Vic. Cap. XXX, to all timber cut by others in trespass on the ground hereby assigned, with full power to seize and recover the same anywhere within this Province aforesaid. But this license is subject to the following conditions, viz:—

That any person or persons may at all times make and use roads and travel over the ground hereby licensed, and cut and take therefrom any trees necessary to make floats, traverses, oars and withes for use in rafting.

That nothing herein shall prevent any person or persons from taking standing timber of any kind to be used in making Roads or Bridges or for Public Works.

And that persons settling under lawful authority or title within the location, hereby licensed, shall not in any way be interrupted by the said Licentiate or any one acting for or by permission.

And further, under condition that the said Licentiate or representatives shall comply with all Regulations that are or may be established by Order in Council, and shall submit all the timber cut under this License to be counted or measured and settle for the duties chargeable thereon when required by me or any Officer thereunto authorized, otherwise the said timber will be forfeited to the Crown, and the said Licentiate be subject to such other penalty as the Act provides.

Given under my hand at , this day of
in the year of our Lord one thousand eight hundred and

(Signed)

Collector of Crown Timber Duty.

It will be seen that the new regulations, while retaining the provision requiring the manufacture of a certain quantity of timber each year on every limit, did much to rectify abuses and prevent over-production by practically giving the license-holder a preferential claim to the renewal of his license, upon compliance with the conditions, and making the taking forcible possession of disputed territory and refusal to comply with the decision of courts or arbitrators punishable by the refusal of license. An attempt to remedy the unfairness of the mode of levying dues, by which the smaller-sized timber paid so much more in proportion than the larger sticks, is indicated by the somewhat elastic provisions of the third clause of the regulations providing for the counting or actual measurement whenever it may be deemed advisable. The provision calling for the manufacture of 500 feet of timber per square mile as a condition of occupancy, while theoretically objectionable, was hardly likely to work much practical injury to the trade, modified as it was by the saving clause under which it might be dispensed with for any season by special notice. The fact of it having been so suspended for two years previous to the adoption of the Act, in consequence of an over-stocked condition of the market, and that attention had been fully directed to its possible injurious effects if maintained during periods of business depression, rendered it comparatively innocuous for the future.

The essentially characteristic and valuable feature of this legislation was, however, the greater stability and permanence attaching to the lumberman's business and interest in the limit secured. By rendering him practically assured of a renewal of his license so long as he chose to comply with the regulations laid down from time to time, and equally secure in the possession and working of his limit, without having to maintain his claim by physical force against his rivals, it lessened the temptation to reckless over-production and unsystematic, wasteful methods of operation.

In 1851 a conspicuous advance was made by the issuing of new regulations, which, while framed on the same general lines as those of 1849, contained several new provisions of importance, aimed at some of the abuses that had been indicated by the investigation which preceded the Act of 1849.

The following are the regulations in full :

Province of Canada.

CROWN LANDS DEPARTMENT,

TORONTO, 8th August, 1851.

NOTICE is hereby given, that from and after the date hereof, LICENSES agreeably to the accompanying form, will be granted, at all seasons, to cut timber, on the Vacant Lands of the Crown, subject to the following conditions and Regulations, sanctioned by HIS EXCELLENCY THE GOVERNOR GENERAL in Council, by Order dated the

Seventh instant, in addition to the requirements of the Act 12th Vic., Cap. 30. And the Regulations of the 5th September, 1849, and 15th March, 1850, are hereby superseded.

1st. Applications for licenses to cut timber on the vacant Lands of the Crown on the River Ottawa and its tributaries from the Gatineau, and the Townships of Hull and Wakefield inclusively, upwards; and the Counties of Lanark, Renfrew and Carleton, and that part of the Counties of Frontenac, Lennox and Addington north of the Townships of Bedford, Hinchinbrook, Kennebec and Kaladar—are to be made to A. J. Russell, Surveyor of Crown Timber Licenses, Bytown; and in other parts of the Province to the respective Crown Land Agents.

2nd. Applications must be in writing, distinctly describing the space or stating the lots of land for which license is required, the applicants furnishing sketches of the limits asked when required, connected with known points, and drawn to scale. No timber berth shall be licensed in unsurveyed lands, exceeding ten miles in length, by five miles in depth, nor exceeding an area of fifty square miles, and half that size in surveyed townships, in the latter case the lots and ranges to be stated—berths to be confined to one side of rivers, wherever practicable. All licenses to expire on the 30th of April following the date thereof. Consecutive berths may be held by the same individual.

3rd. The timber cut shall be paid for at the following rates, viz:

Oak and Walnut per cubic foot.....	1½d
Red Pine, Elm, Birch, Ash and Tamarac.....	1d
White Pine, Basswood, Cedar, Spruce, etc.	0½d
Red Pine Saw Logs, 12 feet long, per log.....	7d
White Pine do. do. do.	5d
Spruce do. do. do.	2½d
Cord Wood, (hard) and Lath Wood per cord.....	8d
do. (soft) per cord	4d

Each stick of White Pine to be reckoned as containing 70 cubic feet.

Each stick of Red Pine to be reckoned as containing 38 cubic feet.

All other kinds of wood as containing 34 cubic feet.

Railroad timber to be taken at actual measurement, provided it does not average more than half the regular size, or on the party exhibiting a contract and specification corresponding with the timber in his raft.

All Saw Logs cut in future upon Public Lands, if exported from the Province, shall be paid for at double the rates mentioned above respectively.

4th. All Square timber, Logs, Deals, Boards or other Stuff leaving the Agency in which it is cut in any form, must be submitted to counting or actual measurement whenever required and statements under oath must be furnished of the kinds and quantities of timber and logs cut under each license, when required by the Agent for the granting of licenses, or other authorized person.

5th. Parties cutting timber on Public Lands, before moving any raft or parcel of timber (whether cut on Public or Private lands) from the Agency in which they held license, shall make report thereof to the Collector of Crown Timber Dues or Agent; making, if required, declaration upon oath as to the number of pieces of each kind of wood in each raft or parcel, and the number of cribs; whereupon they shall obtain clearances from the Collector or Agent, stating the number of pieces in each raft—how many, if any, have been satisfactorily proved to be from Private Lands, and on how many, if any, the duties have previously or then been paid; and on the arrival of any such raft or parcel of timber at Quebec, or at any intermediate place or other port, for sale or shipment, the owner or holder of it shall make report thereof within forty-eight hours to the inspector of Rafts, Deputy Supervisor of Cullers, or other appointed officer, and in addition to the quantity shewn by the clearance as subject to duty, any surplus timber beyond the number of pieces stated herein, on being ascertained by the Inspector of Rafts, Deputy Supervisor of Cullers, or other authorized officer, shall be held as having been cut upon Crown Lands, and be subject to the payment of duties accordingly.

6th. Parties omitting to report the departure of their rafts or other timber from the Agency in which they held license, or the arrival thereof at Quebec, or other port or place for sale or shipment within the Province, as before mentioned, shall be refused further license, and be subject to the forfeiture of the timber for evasion of regulations, as provided in Section 3rd of 12th Vic., Cap. XXX.

7th. Hereafter on the issue of License to cut timber on Public Lands, a Ground Rent of Two Shillings and Sixpence for every superficial mile licensed, shall be exacted in addition to the established duties ; and the deposit on account hitherto levied shall be discontinued. The Ground Rent shall be computed on the nearest approximation to the real areas of the timber berths, but on no license shall it be less than One Pound currency ; and no claim for reimbursement of ground rent over calculated will be entertained after the issue of license.

8th. The ground rent to be exacted on the renewal of license shall be double that of the previous year if the berth has not been duly worked upon—increasing annually in that proportion while unoccupied, (excepting the year succeeding that in which the license has been first issued, if not in a surveyed township) ; reverting to the original rate on the berth being duly occupied ; and the making of 500 feet of square timber or 100 saw logs per square mile shall be considered as due occupation.

9th. No timber berth shall be forfeited for the non-occupation of it, provided the increased ground rent on that account be duly paid ; but berths on which any increased ground rent is evaded by false statements as to occupation shall, (after the former holder has had an opportunity of being heard in opposition) be granted to the first applicant pleading such evasion and non-occupation on or before the 31st May, and proving the same by the certificate of a sworn Surveyor, on or before 31st July following. If half occupation only be proved, the former holder may retain one half of the berth after it has been equitably divided in the opinion of the Agent.

10th. Vacant berths are to be granted to the first applicants and be described in the licenses as—"not to interfere with prior licenses existing, or to be renewed in virtue of Regulations," but applicants for vacant berths must call for license and pay the required Ground Rent (giving satisfactory security for the payment of all duties that may accrue under the license) within three months of the receipt of their applications in the Bytown Timber District, and all other parts of the Province where the lands are not laid out into Townships or otherwise surveyed for settlement, and within one month in those portions of other agencies where the lands are surveyed or otherwise laid out for settlement ; otherwise their applications will be void and the berths be grantable to the next applicants in succession. Ground Rent received to be returned to the applicant, should it be found that the berth asked cannot be made good to him.

11th. Licentiates who have complied with all the regulations, will be entitled to renewal of the licenses for their berths in preference to other applicants for them, if they apply in writing for such renewal before the 1st of June next ensuing their previous license, and comply with the conditions mentioned in last clause before the 1st November following ; failing which, the berths they held will then become vacant and will be offered for sale on 10th November following to the highest bidder making immediate payment, and if not then sold, will be granted to the first applicant thereafter as usual.

12th. When two or more applications are received at the same time for the same ground, it shall be divided between the parties by lot,—should any of them wish it to be so, otherwise the right to the whole is to be determined by lot. But on Rivers, where the cost incurred for surveys or other causes may render it suitable, the preference to license for timber berths may be disposed of at such upset price as the Commissioner of Crown Lands may direct, and be awarded in whole, or in part, to the highest bidder at Auction making immediate payment, in case of clashing applications of equal right.

13th. In the Bytown Timber District, and all other parts of the Province where the lands are not laid out into Townships or otherwise surveyed for settlement, when an applicant has been obstructed for a month or more by a prior application —(for the same ground)—that has become void, he is to be allowed one month in addition to the stated

period to take out license, provided he applies in writing for such extension of time, within three months after the receipt of his application for license, and in those localities where, by the 10th clause of these Regulations, one month is the period for which an application is held good, ten days only shall be allowed in addition, in case of ten days or more of obstruction.

14th. When an application cannot be decided upon till the result of some pending survey be known, or till it be projected, the applicant is to be allowed three months in the Bytown Timber District, and all other parts of the Province where the lands are not laid out into Townships, or otherwise surveyed for settlement, and one month elsewhere, to take out license, after the notification of the result, if in his favor, has been sent to his address; and when the explorations necessary for the preparation of the sketches required by these Regulations cannot without serious loss be effected without an extension of time, it may, on written application, be granted. Licenses granted on erroneous descriptions or sketches furnished by applicants, are to be subordinate to subsequent accurately described licenses, and may be cancelled in whole, or in part, whenever deemed necessary; parties persisting in working under such licenses, after being required to desist, will be trespassers and subject to penalties as such.

15th. The Surveyor of Licenses, and the other Crown Timber Agents, shall keep registers of all applications for berths, licenses granted, and transfers thereof, which, with their plans of licensed limits and vacant ground, shall be open for public inspection; but no applicants shall be entitled to explanation as to applications subsequent to his own, for the same ground.

16th. The Surveyor of Licenses at Bytown and Officers thereunto authorized elsewhere, shall, at the written request of any party interested, issue instructions stating how the boundaries of timber berths should be run, to be in conformity with existing licenses. The surveys are to be performed at the expense of the parties requiring them, but the plans, reports and field notes thereof will be paid for and kept of record by the Surveyor of Licenses or Agent on their being examined and approved by him.

17th. In all cases of contestation as to the right to berths or the position of bounds, the opinion of the Surveyor of Licenses at Bytown, or Agent for granting licenses elsewhere, is to be binding on the parties, unless and until reversed by arbitration, within three months after notification of such opinion has been communicated to the parties (or their representatives on the premises, or sent to their address) or by decision of Court.

18th. To prevent delay and disputes as to arbitrators, it shall only be necessary for the party thinking himself aggrieved by such opinion, to notify in writing to the officer who has given it, his dissent, and the arbitrator he has appointed; it shall then be the duty of the Surveyor of Licenses, or other authorized officer, to take the place of the arbitrator on the other part, and in the case of their not agreeing to an umpire, should one be required, the Commissioner of Crown Lands shall appoint one, at the joint expense of the parties, on the request of either of them, or either of the arbitrators.

19th. Transfers of berths to be in writing, and if not found objectionable by the Crown Lands Department or agent for granting of license, to be valid from the date on which they may be deposited in the hands of the latter; but no transfer to be valid till after one season's actual occupation by the party transferring them.

20th. Squatters or other occupants of land without authority, cutting timber or saw logs thereon without license (except for clearing, building or fencing thereon) or others doing so by their permission, will be subject to the penalties established by law for cutting timber without license.

21st. Persons refusing or evading the payment of Slide Dues or duties on their timber, or the final settlement of bonds for the same before giving it away, or in any default with the Crown Timber Officer or Agent; also persons taking violent possession of disputed grounds before obtaining a decision in their favor, and parties refusing to

comply with the decisions of Courts, or of Arbitrators, or the regulations established by Order in Council, or who forcibly interrupt surveyors, shall be refused further licenses, and their berths become disposable to others on the expiration of their licenses.

22nd. The Collector of Crown Timber Dues or the officer in charge of the Bytown Timber District, may authorize any of the local Crown Land Agents to collect the duties on any timber or saw logs cut under license for local consumption or that may be sent to market, otherwise than by Bytown; and all such Agents whose Agencies, or any part of them, may be within or adjoining the Bytown Timber District, are authorized to seize any timber or saw logs cut without license within or passing through their Agencies, on the proceeds of which they shall receive their usual percentage for collection.

23rd. Licenses are to be granted on the annexed form. The clause at the foot thereof must be signed by Licentiate's Securities in place of the bonds formerly taken, and the description of the berth is to be written on the back of the license.

FORM OF LICENSE.

By authority of the Provincial Statute 12th Victoria, Chapter 30, and Regulations dated Eighth of August, 1851, and for and in consideration of the payments made, and to be made to Her Majesty :—I DO HEREBY GIVE UNTO and unto

Agents and Workmen full power and license to cut upon the location described on the back hereof by and to hold and occupy the said location to the exclusion of all others, except as herein-after mentioned :—from to Thirtieth April, 18 , and no longer ; with the right of conveying away the said timber through any ungranted or waste Lands of the Crown :

And by virtue of this License the said Licentiate has right by the said Provincial Statute to all timber cut by others in trespass on the ground hereby assigned, with full power to seize and recover the same anywhere within this Province aforesaid.

But this License is subject to the following conditions, viz. :

That any person or persons may at all times make and use roads upon, and travel over the ground hereby licensed, and cut and take therefrom any trees necessary to make Floats, Traverses, Oars and Withes for his or their use in rafting.

That nothing herein shall prevent any person or persons from taking standing timber of any kind to be used for the making of roads or bridges, or for public works.

And that persons settling under lawful authority or title within the location hereby licensed, shall not in any way be interrupted by the said Licentiate, or any one acting for or by

And further, under condition that the said Licentiate or representatives shall comply with all regulations that are or may be established by Order in Council, and shall submit all the timber cut under this license to be counted or measured, and settle for the duties chargeable thereon, when required by me or any other officer thereunto authorized, otherwise the said timber will be forfeited to the Crown, and the said Licentiate be subject to such other penalty as the Act provides.

GIVEN under my hand at this day of
in the year of Our Lord one thousand eight hundred and

Ground Rent.....£

 We have read and comprehend the nature of the obligations contained in this License, and we bind ourselves jointly and severally, and each of our Heirs, Executors, Curators and Administrators, to pay all duties that may become due and payable to Her Majesty, Her Heirs or Successors, on any timber cut or acquired by virtue of this License in the event of the above named Licentiate failing or refusing to pay the same, or to give satisfactory bonds for the payment thereof.

The principal change in the system created by the regulations was the imposition of a ground rent, a measure almost universally favored by practical lumbermen as the best means of preventing the monopolization of unworked limits. The deposit on account of dues was discontinued, and in case the comparatively small ground rent should be insufficient to prevent licensees holding their limits from year to year unoccupied, as might easily be the case should the limits be specially valuable and the market dull, it was provided that the ground rent should be doubled for every year that the limits remained unworked. The general principle of disposing of timber berths by grant to the first applicant, giving previous occupants who had complied with the regulations the preference, was left undisturbed. But a particularly significant modification was introduced by the 12th clause, providing that upon rivers where the cost of surveys rendered it advisable, preferences for licenses might be disposed of at an upset price fixed by the Commissioner of Crown Lands, and in the case of competition awarded to the highest bidder at auction. This is an important extension of the principle adopted in 1842, and an advance towards the adoption of the auction system as it now exists.

Another noteworthy change in the law, interesting in view of the importance attaching to the same question in the course of recent legislation and diplomacy, was the provision that all saw logs cut upon public lands, if exported from the Province, should be paid for at double the ordinary rate. This subject had been brought to the attention of Parliament during the session of 1851, when on the 22nd of May petitions from N. McKinnon and other lumbermen and mill-owners of Bayham and surrounding townships, and from the municipality of Bayham were presented, asking for an export duty on unmanufactured pine logs and timber designed for foreign markets. The county of Middlesex also petitioned for measures to prevent the exportation of pine logs. On the 2nd of June the Hon. Mr. Sherwood brought the matter up by an inquiry of the Government as to whether they intended to propose such a duty, or to take any other steps to protect the timber manufacturers of the Province against the injurious practice, on the part of American citizens, of securing Crown Lands at a low rate for the purpose of cutting timber to be manufactured in their own country. Hon. Mr. Hincks' reply was to the effect that it was not the intention of the Government to propose an export duty on saw logs, but that steps had been taken to prevent the destruction of timber on the Crown Lands. The embodiment in the regulations of the clause respecting the double duty on saw logs cut for export was no doubt the result of this agitation, which appears to have excited very little public interest beyond the circle of those immediately concerned in the trade.

The beneficial effects of the more stringent policy inaugurated by the new regulations, were not long in manifesting themselves. There was an immediate and considerable increase in the revenue from timber licenses. The proceeds of timber dues increased were £22,270 in 1848; £24,198 in 1849; £24,728 in 1850, and £30,318 in 1851. In 1852, the first year in which the new regulations were in operation, the total receipts from timber licenses and duties went up to £53,013, of which £7,656 represented ground rents. This increase, moreover, accrued in spite of the reduction by one-half of the rate which had previously been levied on red pine. The trade in that article had for some years been declining in volume, and the timber decreasing in price, while the white pine, formerly considered as of secondary importance, had met with increasing appreciation in the British market. Under these circumstances the distinction made by the tariff of rates, which fixed the duty on red pine timber at one penny per foot, while white pine only paid one-half penny, was felt to be an injustice and an anomaly. Petitions from the corporation of Bytown and the municipal council of Carleton County, among others were forwarded to the Government, praying for a reduction of the Red Pine duty. Hon. John Rolph, the Commissioner of Crown Lands, in a report on the subject, dated July 24th, 1852, dealt fully with the changed conditions of the lumber export trade and the causes resulting in the supremacy of Canadian white pine as our staple forest

product. His presentation of the matter is of general interest, apart from the immediate object of the inquiry, in its relation to the new phase entered upon by the lumber industry in response to the altered demands of the British market.' After noting the representations of the petitioners that from time to time, when the Imperial differential duty was reduced below 24s. per load, the export of Canadian red pine began to diminish and their apprehensions, that the continued decline in the trade threatened its utter extinction unless the heavy charges to which it was subject were reduced by equalizing the duty with that on white pine, the report continued :—"It appears that the rates levied upon the respective kinds of timber were adopted under circumstances very different from what now exist. At a period not very remote, white pine, the staple product of the forests of Canada, did not bear a very high character in the British markets. On the other hand, red pine, which is the staple product of the forests of Northern Europe, was highly esteemed. The result was that the heavy duty on foreign timber enhanced the price of that article, of which the supply was obtained mainly from the Baltic, and while the greater quantity obtained from thence regulated the price, the limited supply obtained from Canada was favored by a difference at one time of more than 1s., and until lately of more than 6d. per foot, even the latter being much more than the difference in freight.

"Of late years, however, the White Pine of Canada has been found, for many purposes, a better article than red, and has acquired a higher character than it formerly bore, the result of which has been that while the export value of the Red Pine in Quebec has been diminished by the withdrawal of the artificial price formerly created for it, the value of White Pine has become gradually enhanced by a better appreciation of its qualities.

"It is indeed to be hoped that Canada will, upon the whole, be a gainer by the changed aspect of the trade. It may seem strange that a higher value should be attached to a highly taxed article, merely, as it were, by reason of its extra price, but it is a remarkable fact that, as the price of a highly taxed and highly priced article was lowered by the removal of the unjust impost upon the consumer, the comparatively untaxed article, till then cheap, became better appreciated as it became subject to a more equitable and fair competition. When the colonial timber trade was 'protected,' the species of timber which Canada and New Brunswick only could supply in abundance was cheap, and in proportion to its price was considered of little value, but when left to fair competition, it has risen in the estimation of the consumer to an extent equivalent to the loss sustained upon that species of timber which had really been enhanced in value by the differential duty."

The report refers to the statistics presented in the memorial of the County of Carleton as evidencing the serious and permanent character of the depression in the export of red pine, which are as follows :—

	Export.	Price (40 feet average).
		s. d.
1844.....	4,699,149	1 0 per foot.
1845.....	5,182,320	1 0 "
1846.....	5,206,040	0 11 $\frac{3}{4}$ "
1847.....	4,466,520	0 9 "
1848.....	4,365,440	0 8 $\frac{1}{2}$ "
1849.....	4,070,600	0 8 "
1850.....	3,586,844	0 8 "
1851.....	3,482,400	0 8 "

The report went on to point out that the then existing rates of duty levied upon red and white pine, apparently established in 1829, has been maintained through all the mutations of the trade since that period without modification. Though no statistics were available to show the relative value of red pine at that period, yet at a much more recent date the average market value was at least double the value of white pine and therefore justly subject to the higher duty. It still bore a higher value in Quebec market than white pine, but it also cost more to bring it to market, considering which it was doubtful whether red pine bore

even as high a value as white when growing in its natural state. It was of much smaller average size and consequently required a greater amount of labor to produce in a marketable state an equal quantity of cubic feet. The red pine producing country lay at a greater average distance from the market, increasing the cost of transportation, and the average level of the red pine country was higher than where the white pine was principally produced, consequently there were greater obstacles and more expenses incurred for slides, dams and other improvements to enable it to be floated. The heavier charges to which the production of red pine was subject, were therefore regarded as fully equivalent to any difference in the market price in its favor and reducing its value as a standing timber to a par with the white pine.

The Commissioner estimated the loss to the revenue for the current season by the proposed reduction at £4,166 13s., but stated that the amount would be more than made up by the stricter enforcement of the law, and the prevention of frauds by which timber had escaped the payment of duties under the false pretence of being from private lands. The report concluded with the recommendation that in consideration of existing circumstances of the trade the prayer of the petitioners be granted and the duty on red pine be reduced to one half-penny per cubic foot. An Order in Council to this effect was accordingly issued on the 14th of September following.

In connection with this subject the following figures from a return of the quantity of timber measured through the Supervisor of Ouller's office at Quebec for the Exports. years 1845-52 are of interest as showing the relative importance of white and red pine at that period:—

Year.	White Pine.		Red Pine.	
	Feet.	Feet.	Feet.	Feet.
1845	19,141,982		4,444,515	
1846	24,662,815		5,183,307	
1847	12,074,708		6,516,922	
1848	7,132,127		4,223,952	
1849	11,924,198		3,797,584	
1850	14,388,593		2,121,316	
1851	15,487,180		3,189,657	
1852 to Sept. 30	26,364,464		1,857,333	

During the session of 1854-55 Mr. Carter introduced a bill to protect the forest and to prevent the setting of fire to the woods with the view of clearing lands. The measure was however dropped before reaching a second reading, probably in consequence of the appointment of a Committee of the House to investigate the whole subject of the management of public lands. On the 16th October, 1854, the House of Commons adopted the following resolution:—

"Resolved, that a select committee composed of Mr. Galt, the Hon. Mr. Morin, the Hon. John Sandfield Macdonald, the Hon. Mr. Hincks, the Hon. Mr. Rolph, Mr. Lemieux, Mr. Jean Baptiste Eric Dorion, Mr. Langton, Mr. Ferguson, Mr. Fortier, Mr. Egan, the Hon. Mr. Merritt, and Mr. Cauchon, be appointed to examine and report upon the present system of management of the Public Lands and the various dues arising therefrom, together with the present mode of selling, leasing and otherwise disposing of the same, to report thereon with all convenient speed, with power to send for persons, papers and records."

The evidence taken by this committee covers a great number of points in relation to the lumber trade and forest management. The tenor of many of the answers received to the questions submitted by the committee are full of suggestion regarding the problem as it presents itself to-day, and show that the various phases of the question were at that time becoming better understood and receiving more intelligent consideration than in the earlier days of the trade.

Loss of Timber Dues Through Squatters. One of the most conspicuous abuses of the system to which frequent reference has been made, was the cutting of timber by settlers and squatters, either under the colorable title of purchase or otherwise. As has been seen the profuse granting of land far in excess of the requirements of settlement, prior to the outbreak of 1837, and the consequent low price of land for some time afterwards, brought about a state of affairs under which it was frequently cheaper to buy timbered areas outright for lumbering purposes than to pay the Government dues.

In later years the conditions of sale remained so exceedingly liberal that advantage was frequently taken of them to obtain possession of the land by payment of a small instalment of the purchase money for the sole purpose of exploiting the timber. Under the regulations for the sale of public lands which prevailed at the time of the enquiry, the price varied, according to location and character, from three to ten shillings per acre. In the case of the higher priced lands in Western Upper Canada the money could be paid by instalments covering a period of ten years, only one-tenth being demanded in cash. Although the regulations strictly prohibited the cutting of timber, except where necessary for building, fencing and clearing, they were in many cases set at defiance.

William Spragge, of the Crown Lands Department, in a letter to the committee, after recommending that all ordinary Public Lands in Upper Canada should be placed at a uniform rate of five shillings per acre, thus refers to the timber difficulty :—

"Of the purchase money it is desirable that a sufficient proportion shall be paid down, to guard against the land being plundered of its timber and then abandoned, which there is reason to believe is the course often pursued under the present system of one-tenth payments. Accordingly I would substitute payments of two-fifths, relieving the settlers from any further payment until the expiration of three years, by which term it may be assumed that from the produce of his land he would then be in a condition to pay a further instalment of another one-fifth.

"Before concluding this letter it becomes advisable to refer generally to the privilege of cutting and disposing of timber and other merchantable wood, previously to the land being paid for in full. For the reason that the present system of one-tenth instalment conveys by a payment to that extent a species of right to the land, or a claim, the weight of

Settlement Difficulties. which others not concerned do not choose to dispute, and under cover of which it is understood parties in many cases despoil the land of its timber, notwithstanding the prohibition to the contrary, and having accomplished their object will, in those cases where the land is not of superior quality, probably make no further payments. It is suggested that a permit to cut timber and merchantable wood be given to purchasers, under the system proposed, upon their depositing with the local agent, upon obtaining such permit, the amount of duty in advance upon the quantity of timber to be specified therein; as authorized to be cut and removed, the amount so deposited to remain available towards the purchase in the event of the required quantity of land being duly cleared in the proportion and within the time prescribed and the conditions of the occupation fulfilled. But the amount to be forfeited if compliance with the terms of settlement be not rendered, and also any fraud or mis-statement as to the quantity actually cut to render void the permit and have the effect of cancelling the purchase, forfeiting such sums as may have been paid in on account of it, and rendering liable to seizure all timber and wood, particularly in the permit, or assumed to have been cut under its authority and which can be attached.

"For the prevention and punishment of fraud, it is often found advisable to fence in by strongest regulations the public rights, and probably there is no description of property which requires to be so carefully guarded as the Public Lands and timber."

Hon. Alexander T. Galt, who in his capacity as manager of the British American Land Company, addressed a letter to the committee, expressed himself in favor of the American system of selling the Public Lands at a low price for cash only. He regarded the denial of the right of the bona fide settler to sell timber as a hardship. "The plan adopted in my own management," he wrote,

"and which I think might be followed with advantage, is to require the party purchasing the timber to account for it at the usual rate of stumpage, and the amount is thereupon passed to the credit of the purchaser of the land."

Further observations made in this communication deal with a question, which was assuming prominence in connection with lumbering operations in consequence of the existing and prospective development of the export trade to the United States on a large scale. The adoption of the Reciprocity Treaty in 1854 securing the free exchange of the

The Reciprocity Treaty. natural products between Canada and the United States, including "timber and lumber of all kinds, round, hewed and sawed, manufactured in whole or in part," stimulated considerably the growing demand in the United

States for Canadian lumber. In proportion as the market for sawn lumber developed, the cutting of square timber, for long the leading branch of the industry, declined in importance and became less essential to the prosperity of the lumbering interest. The disadvantages of the square timber trade as compared with that of sawn lumber, more especially its wastefulness and the greater danger of forest fires involved by the debris and litter left in the woods began to attract attention. Hon. A. T. Galt's remarks on the question in the letter before mentioned are as follows :

"The timber trade of Canada until the development of the American market, was almost confined to the export of square timber and deals. Apart from the indirect advantages of thus employing a large number of ships giving cheap passage to emigrants, I have always regarded the export of square timber as a profligate waste of one of the greatest sources of Provincial wealth.

Square Timber Wasteful. I believe it is at this day entirely unnecessary to enter into any argument to prove that the value of our forests to the country is precisely in proportion to the amount of labor expended in preparing the timber for market, and that therefore the more crude and raw state in which it is exported the less value the trade is to the Province.

• "It must be conceded that it is most desirable to adopt such a policy as will cause capital, skill and labor to be most generally embarked in the trade, and this can only be done by holding out in the disposal of the timber, greater inducements to manufacture it into sawn lumber than into square timber, which latter wastes the finest portion of the wood, and represents the smallest amount of fixed capital and labor in its preparation.

"The importance of this distinction it appears to me, has never been sufficiently realized in the conditions under which timber limits have been disposed of. And I would strongly urge the consideration of it on the Committee with the view of their recommending such rates as may have a tendency to induce the export of timber in a manufactured state. One of two things must at present arise, either an inadequate rate must continue to be charged for saw-logs, or an absolute bonus must be given to encourage the manufacture of that class of timber which is least valuable to the Province.

Rates of Dues too Low. "I regard the present rates charged by the Crown for timber, as generally much too low, and believing that an increase would fall, not on the trade, but on the consumer, I suggest an immediate and considerable advance, which, if it should have the effect of causing greater attention to be given to the manufacture of sawn lumber, would tend to the more rapid settlement and prosperity of the great Ottawa Valley. Undoubtedly the increase of our lumber trade with the United States, will be in the direction of sawn lumber, and it fully justifies the Government in seeking to obtain a price commensurate with the increased value of the timber."

Mr. Spragge, Chief Clerk of the Crown Lands Department, in a statement prepared for the committee, as to the cost of managing the public domain, with suggestions for changes in the direction of efficiency and economy, thus dealt with the question :

"There is yet a subject to which I will take leave to allude, entitled, I think, to special attention. Those who have taken a real interest in the timber and lumber trade of Canada will be in a position, provided they have given due attention to the subject, to

weigh the relative advantages of shipping the products of our forests in the form of squared timber, or in the more valuable and prepared form of deals and other sawed stuff.

In perambulating land where timber has been made, as the expression goes, **An Official View.** it is impossible to be otherwise than struck with the enormous amount of valuable wood which the axeman separates from the stick of timber, which,

by the process of squaring, he is fitting for exportation, and which remains where it was detached from the square piece, and in process of time uselessly rots upon the ground. A bend in the tree or any small defect, some distance up the trunk consigns all above one or the other to the same useless destiny of rotting upon the ground, which befalls the blocks which the axeman cleaves off, in reducing the round trunk to a square, and all but the superior trees and those which will make a piece of timber of a given length and square, remains unused.

" In cutting the short saw logs intended to be worked into deals, and other stuff manufactured in a saw mill, it is evident that the proportion of each tree, which can be converted into an article of export, may be estimated at fully three fourths more than could be rendered available for market by making the tree into hewn timber, and many trees rejected as unfit for timber, would cut up into saw logs, were the land divested of its timber trees for that purpose, instead of the other,—and I think it may be reasonably computed that an acre of white pine would bring back to the Province, when converted into deals and other sawed stuff, a return three-fold greater than if exported as hewn timber. With this of course the superior value of the cubic foot of sawn timber would have something to do. And again, it should be kept in view, the more extended employment conferred upon the laboring population in preparing for the foreign market the cargo of the ship freighted with sawn stuff, beyond that expended upon the freight of the timber-laden ship. Add to this the employment that mills afford to artizans, and the advantage to the farmer resulting from the greater home consumption of produce, induced by one system of export rather than the other ; and sound reasons deducible from the various circumstances combined, will be found for fostering and encouraging the shipment of the produce of our forests, when prepared for exportation as deals, or other sawn stuff in preference to their being sent from the Province in the shape of timber.

" There is one way, which occurs to me, in which this seemingly desirable encouragement could be afforded, that is, by allowing a drawback to the shipper Drawback equal to one-third of the duty leviable. When it is taken into account **Proposal.** that the duty paid by the lumber merchant upon what he takes off from

every acre (using up everything which he can prepare for export) is probably more than three-fold greater than would be paid by the timber merchant were he to make timber upon the same piece of land ; from the circumstance that of necessity he rejects or wastes what the other had no difficulty in working up ; the lumber merchant appears to have a species of right on his side to the mark of consideration for his branch of trade, which the allowance of a drawback would indicate.

" It is unfortunately too much a matter of certainty that what used to be designated our inexhaustible supplies of timber are rapidly disappearing, and sound policy would suggest that inducements should be offered for economizing that which still stands in the forest ; and in addition to those which I have already named for the following among other reasons : The British capital invested in our railways, and in Provincial and Municipal loans, must ere long lead to an annual drain in very considerable sums in the way of interest and profit, and the large amounts hitherto yearly brought into the country and expended for military purposes being about to cease will, both the one and the other, tend to render it more difficult than ever to balance our accounts satisfactorily with Europe. To export all our products in a shape and form such as to increase their intrinsic value cannot but be a matter of the greatest moment; and I believe that in recommending the allowance of a drawback on deals and other sawn stuff I am advocating a measure worthy of serious consideration."

The differences between the Canadian and American systems of disposing of the timber were thoroughly discussed during the course of the investigation.

The System in United States. The exposition of the methods pursued in the United States rendered it abundantly evident that whatever defects might exist in the Canadian system it was much superior to that of the United States in the matter of preventing the monopoly of natural resources by comparatively few individuals and securing to the public treasury returns in some measure proportionate to the value of the privileges granted.

Jonathan R. White of the State of Michigan, explained to the committee the system adopted in the United States for the sale of public lands and timber as follows :

"The land districts, which are established by Act of Congress, having been surveyed, measures are taken for the sale of the lands by the appointment of a Registrar and a Receiver. The Registrar is supplied with all necessary information respecting the lands. He receives the applications and issues his certificates of application, but receives no money. The Receiver receives the money for lands, transmits it immediately to Washington with name of purchaser, in whose favor the patent at Washington is then transmitted to the Registrar of the land district for delivery. On the appointment of the Registrar and Receiver the lands are declared by proclamation of the President as open for sale, and a public auction is advertised to take place at the Registrar's office in the land district at the uniform, fixed upset price for all the public lands in the United States of one dollar and twenty-five cents per acre. Such lands as are not sold at auction are therefore open for sale to any applicant at the upset price. Neither at the first auction sale nor afterwards is there any limitation as to quantity that

No Limit to Quantity. may be bought. The lands are all sold for cash. By Act of Congress of last year a graduated scale of prices has been fixed, whereby lands remaining unsold for a certain number of years may be disposed of at lower rates than one dollar and twenty-five cents. A party desirous of purchasing makes application in writing to the Registrar, who, in the absence of other claimants, issues a certificate in his favor, with which he proceeds to the Receiver and pays the purchase money."

The following answers made by Mr. White to questions submitted by the Committee explain the working of the system as it affected the lumber industry.

"Will you state the mode in which timber is disposed of?" "The Government do not permit the sale of timber on public lands, and agents are expressly appointed to prevent depredation. The purchase of the land is the only mode in which timber can be obtained."

"Do you consider this a good plan?" "I do. It aids the sale of the lands, making them subject to taxation and encouraging the settlement of the country, also promotes the saving of the timber, which, under the stumpage system, will always be more or less wasted. The lands are generally fit for settlement after the timber is removed."

"Supposing the land to be of little value for agricultural purposes, would you still consider it expedient to sell the land and not the timber by stumpage?" "I would not. If the land be of little value except for the timber, it is the greater reason for selling it, especially as if sold the timber will be more economically applied."

The Canadian lumbermen and Crown Lands officials who gave evidence clearly pointed out the defects of the American system as set forth by Mr. White.

"I have read Mr. White's evidence," said David Roblin, an experienced lumberman, "and am decidedly of the opinion that the plan he proposes would at once place in the hands of the rich and opulent capitalist all the good lands of the Crown, or would lead to the formation of private companies for the purpose of purchasing the whole of them; once in the hands of wealthy individuals or companies they would immediately ask a large advance upon the cost and sell them on time to those that actually cultivate and improve the lands, and who have no other resource but to submit and to pay such fines as were demanded or seek elsewhere for more favorable terms to obtain a living for

themselves and families. * * * * With reference to Mr. White's remarks respecting the disposal of timber on the public lands, it is quite evident that he knows

Objection to American Plan. very little of the subject upon which he speaks or of the amount of duties paid on timber here. He says it is even better to sell lands that are not fit for agricultural purposes than to sell the timber.

Now take the plan which he proposes, viz., selling the land in the United States at 6s. 3d. per acre, and suppose these lands well timbered, it would take 150 feet of pine timber at $\frac{1}{2}$ d. per cubic foot (the government duties) to pay for an acre of land, about two trees to the acre of a very ordinary size, being only 75 feet average. Now it will be observed that if the Government only get duties on two trees to the acre they get this price with the land left, which is certainly worth something even should it be given to an actual settler. But the fact is one acre of good timbered land will afford on the average at least about five times the quantity above mentioned. His remarks on this score may be quite applicable to prairie lands, where little or no timber is to be found, but can never apply to lands where there are to be found 150 feet on an acre, and the price according to his estimate. I may add that I have only taken pine timber in the above calculation, which pays a much less duty than other descriptions such as oak, elm, etc."

Andrew J. Russell, Crown Lands agent at Bytown, urged that past experience was strongly against the uncontrolled acquisition of land in blocks. "Were such a blight," he said, "to fall on the lands fit for settlement on the Ottawa it would check the consolidation of the Province as an inhabited country, and be injurious to its unity and strength. For there, as the chief value of the land is in its timber forests, we know it would be for that it would be purchased by speculators; the soil would be little thought of. The lumbering which is causelessly complained of now would then certainly be the governing interest and settlement be entirely at its mercy. Government would have lost all control of the land which it now retains and the immediate interest of the speculator would overrule the interest of the Province. * * * * The unconditional sale of lands could not possibly forward settlement more than the present system—would be advantageous to the speculators but fatally injurious to the revenue and might, by checking settlement, be injurious to the welfare of the Province."

How well-founded these objections to the American system were has been amply shown by the experience of later years. The alienation of extensive tracts of the public domain of the United States has not promoted economical methods of lumbering with an eye to maintaining the productiveness of the forests for the benefit of future generations. On the contrary it has resulted in large regions adapted by nature for tree-bearing, but otherwise unproductive, being stripped entirely of their vegetation with the object of realizing immediate profit and turned into barren wastes, while the fact that the ownership of the soil remains vested in private hands is a serious obstacle to such comprehensive plans of reforestation as in the light of the increased knowledge of the subject and the urgent necessities of the case might otherwise be undertaken. In those instances where it is sought to accomplish something in the direction of setting aside forest reserves, the State governments either find their schemes confined within narrow limits or rendered abortive by the conflict with vested rights which should never have been accorded, or find themselves compelled to repurchase at a heavy cost the lands necessary for their purpose.

The evidence of several of those who testified before the committee shows that practical men at that time realized the desirability of maintaining permanently in timber the

Early Forestry Advocates. non-agricultural regions and understood that the principal danger to the stability and permanency of the lumbering interest was the opening up for settlement, or the toleration of squatters upon the lands especially adapted for forest reserves. Criticising an observation made by Mr. Sprague, Mr. A. J. Russell said "he is also mistaken in saying that the lumber trade is but a temporary branch of trade of which a few years more will probably see the end. In the region of which he speaks the quantity of arable land is compara-

tively small, much must forever remain a forest country, of which its timber will continue a staple all the more valuable for its becoming scarce elsewhere and will continue to give an increased value to farm produce there. * * * It is not desirable to have forest tracts wholly unfit for settlement surveyed into sub-divided townships. The expense is lost to the public and the sub-division offers facilities for the plundering of timber from the adjoining Crown Lands under the pretence of settlement on the lots purchased by them (unless duties be levied as I propose on all timber

Bogus Settlers. from lands in future sold). It also offers some temptation for settlers to occupy inferior lands where they cannot afterwards prosper, for the temporary profit of the timber, and where the fires they occasion in burning choppings at unsuitable seasons certainly increase the destruction of the standing forests. As to the protection of the public domain from fire, I am afraid but little can be done. The sale of forests to private individuals would have but little effect that way, for the license holders have now already as great an interest in preserving the timber as if they were proprietors. The only practicable measures I can think of are, to enforce the law against burning brushwood during the season when danger is greatest from fire, making the offence a misdemeanor punishable by fine and imprisonment and giving a reward to informers. The injury to settlements as well as to the public forests

Forest Lands to be Surveyed. on the Ottawa would justify additional rigor. And the discouragement of the practice of squatting in the timber forests, which would be best effected by surveying and throwing open for settlement at a low price such tracts of land only as are really fit for cultivation. Especially endeavoring to draw settlers of all kinds back into the hardwood country on the headwaters of the western tributaries of the Ottawa, by the opening of practicable roads and a survey of a sufficient quantity of land there for settlement. Giving no encouragement to settlement in the timber tracts, except where necessary for the maintenance of roads unavoidably leading through them to a better land."

William Hamilton, lumberman, in reply to a question as to the prevalence of forest fires and the best method of preventing them, said :

"The most certain way of preventing the destruction of timber by fire is that Government should put a stop to squatters entering into the land of the Crown (either surveyed or unsurveyed) without the consent of either the nearest local agent or that of the Government, as there is sufficient land of equal, if not better, quality unoccupied in the front townships. The only cause of destruction of timber has arisen from such settlers and I am satisfied that there is annually destroyed as much, if not more, timber by fire by such settlers than arrives in the Quebec market yearly."

The following extract from the evidence of James Henry Burke of Bytown, sets forth very clearly the mutually advantageous relations existing between the lumbering and the agricultural interests, and also emphasizes the view more positively and comprehensively brought out during the course of this investigation than in any previous treatment of the subject, that a radical and essential difference in the administrative system in dealing with agricultural lands and non-agricultural lands respectively, was not merely warranted, but necessitated to insure justice to both these interests. The weakness of the American method, or any system that approximates to it, in including non-cultivable forest-covered land in the same category as soil capable of profitable tillage, is that in treating the timber as a mere appendage to the land, instead of a feature giving a distinct and specific character to the region producing it, the interests of the public and posterity are almost certain to be sacrificed to the immediate profit of the purchaser.

To the question, "What effect has the present system on the preservation of the forest, and on the settlement of the waste lands of the Crown?" Mr. Burke replied : "I think the present system has a tendency to conserve the pine timber, to spread a local market for the produce of the backwoods settler over the longest space of time, without which the settlement of several hundred square miles of your best territory can scarcely be made. We have an immense fertile territory stretching westward from Bytown to

Lake Huron, and north-westward from Nipissing to Lake of the Woods, which, as a whole, is no way inferior to an equal area of some of the Eastern States of the Union. But our territory is a wilderness. In the centre of the country named lies the timber fields of the Ottawa, at present yielding their first crop, which goes to build up the cities of the east and west. Nature has so arranged it, that this pine-producing territory does not possess a fertile soil. Were it such, the axe of the settler would destroy the timber required to make the western prairies inhabitable, or to spread the comforts of civilized life over the forestless isles and continent of Europe. This pine territory has its allotted end, and will subserve; perchance beneath those far-stretching forests repose rich mines of metal to tempt man's arm to delve the earth when the dark green canopy, which shuts out sunlight, has disappeared.

"But mark this coincidence; surrounding this pine territory and contiguous to the great lumber fields, is the large area to which we have alluded, possessing a fertile soil and timbered with hardwood. This timber has not the commercial value of pine, and its destruction is not a national loss. This land is destined to sustain a large body of agriculturists in close proximity to the great timber making centres. It enables us to raise the grain, fodder and provisions, consumed in timber making, from eighty to ninety miles nearer the ground of consumption than we now do. While the lumber trade flourishes in pristine vigor population should be introduced, but let us not be understood to encourage the wanton, foolish and insane policy of the Crown Lands Department in surveying a township where nothing but pine and rock exist, or where to get a thousand acres of habitable land, settlers may be thrown in to spread fire and havoc through the pine forests; we go for keeping a fair line of separation between the lumbering and agricultural regions, as nature has laid it down. The whole bulk of the produce consumed in lumbering above Bytown is moved a distance of one hundred and two miles, we can shorten this distance materially. The moving of these supplies costs nearly fifty thousand pounds per annum—it is so much thrown away. Were the lumber market cut off from the people who now command it, immediately after our railways now in hand are completed, the country would be no loser. When good communication with the eastern seaboard exists and the Reciprocity Treaty secures our equality with the Americans in their own markets, we can afford to leave the lumber market to an interior population. The sooner that market is supplied by the soil west of the seventy-seventh degree of longitude, the better for the country. All grain grown east of that will find as profitable an outlet to the eastward. To arrive at such a state of things we want a population of eighty or one hundred thousand additional souls laboring the productive soil of the interior, and to have this we must encourage immigration."

"What means would you suggest for the preservation of the forest from fire?"

To Prevent Fires. "Survey no townships on which the soil fit for farming purposes does not bear a certain proportion to the pine-covered soil, which in most cases is unfit for settlement, permit no isolated scattered settlers to locate amidst the pine forests, and forbid by general law, or municipal regulations, the burning of brush, etc., between the 4th of June and 4th of September."

The report of the Select Committee was made on the 18th of May, 1855, the two first paragraphs of which are as follows:

"That owing to the varied and extensive character of the subject referred to your committee, and the very important interests liable to be affected by such changes as might be recommended, it has not been possible to obtain sufficient evidence to warrant your committee in arriving at a definite conclusion and general report on the matters referred to them. They are, therefore, obliged to report the evidence obtained to your Honorable House, accompanied by the unanimous expression of their opinion, that important modifications of the present system are imperatively required, and they, therefore, recommend that the subject with the evidence herewith submitted, be again referred to a Select Committee of your Honorable House at the next meeting of Parliament.

"With reference to the disposal of timber on the public domain, your committee strongly recommend, that no change whatever be made in the terms upon which

present limits are held, pending the final decision of your Honorable House in reference to this most important question, as it is their unanimous opinion that, until the system is determined upon and regulated by Act of Parliament, a change of the present regulations would be detrimental to the public interests."

Ground Rent. The ground rent system adopted under the Timber regulations of August 8th, 1851, was modified by an Order-in-Council of the 20th of August, 1855, providing "That the extreme amount of ground rent payable as a penalty, over and above the single rent in any case of non-occupation shall not exceed the minimum amount the berth would produce in duties (on square timber) if duly occupied according to regulations; but this limitation not to affect timber berths acquired since the ground rent system was in force by competition thereon, or other special regulation and not to imply but what the government may raise the rents or increase the duties, as the future circumstances of the trade may render expedient."

The terms of this Order-in-Council clearly indicate the determination of the Government to guard against any assumption that the purchase of timber limits subject to a ground rent conveyed such a vested right, either moral or legal as would preclude the imposition of new conditions or increased payments whenever it might be deemed advisable.

Regulations Subject to Change. From the very outset the settled policy of the Crown in dealing with the holders of the timber licenses has been to maintain unimpaired the right of government to vary at will the terms upon which the limits were held from year to year, the claim of the licensee extending no further than the working of his limit under whatever regulations might be imposed. The continuous enjoyment of any franchise or privilege has always the tendency to create a vested right, unless the interests of the public are jealously safeguarded against such an implication, and it is fortunate that the position taken by Canadian administrations on this question has been sufficiently clear and positive to prevent the conditional usufruct of the lumberman gradually lapsing into practical ownership.

Up to this time there had been no regular official reports for the information of Parliament and the country as to the operations of the Crown Lands Department, details as to the proceedings of this very important branch of the public service being principally obtained in the form of special returns. On the 5th of May, 1856, on motion of Hon. A. T. Galt, the House of Commons adopted the following resolution:

"Resolved, that it is the opinion of this House, that the Commissioner of Crown Lands should submit to this House an annual report upon the Department of Public Lands, made up to the 31st of December of each year; to be presented on the 15th of February following if the House be then in session or at the meeting of Parliament succeeding."

From the first annual report of the Commissioner issued in accordance with this resolution, for the year 1857, it appears that an Order-in-Council adopted in that year effected a change in the system of collecting ground rents, postponing the payment until the 30th of April.

The subject of the adequate protection of timber growing on private lands from spoilation or damage engaged the attention of Parliament during the session of 1860, resulting in the passage of "an Act for the further protection of growing timber," the main clauses of which are as follows:

Protection of Timber. 1. "If any person steals or cuts, breaks, roots up, or otherwise destroys or damages, with intent to steal or unlawfully carry away, or procures any person or persons to steal or to cut, break, root up, or otherwise destroy or damage with intent to steal or unlawfully carry away, any tree or sapling, standing, growing or being on the lands of any other, the injury done to such other person thereby being in amount more than ten dollars, every such offender being convicted thereof shall be guilty of a misdemeanor, and shall be punished at the discretion of the Court by fine, not exceeding the sum of one hundred dollars, or by im-

prisonment in any common gaol for a term not exceeding six months, or by both; and the said fine or any portion thereof, the Court may in its discretion award to the person injured.

2. "If any person receives or purchases any tree or sapling, trees or saplings, or any timber made therefrom, exceeding in value the sum of ten dollars, knowing the same to have been stolen, or unlawfully cut or carried away, such receiver or purchaser shall be guilty of a misdemeanor, and may be indicted and convicted thereof; whether the principal offender has or has not been convicted, or be or be not amenable to justice and shall be liable to the same punishment as the principal offender."

The remaining sections provide that the Act shall not affect any civil proceeding against the offender, or prevent the adoption of other criminal proceedings.

A more stringent measure was adopted, applicable to Lower Canada only, by which it was provided that any person found in a forest reserved for firewood, sugar-making or other purposes, or on any road in its vicinity, with any tree or part of a tree in his possession, might be taken before a justice of the peace and, in case of failing to satisfy the latter that he came lawfully by the property, fined not more than eight dollars over and above its value.

The report of the Hon. P. M. Vankoughnet, Commissioner of Crown Lands for the year 1859, presented in 1860, contains some interesting details as to the development of the system and the expansion of the lumber industry. The amount accruing due for

Increasing Revenue. ground rents, timber dues, and slide dues for four years were as follows:— 1856, \$262,872; 1857, \$289,839; 1858, \$232,624, and 1859, \$316,656, indicating a steady increase in the volume of the output. The Commissioner said concerning the adoption of the auction system:—

"Whenever there has been any demand for timber berths, and it was at all likely that any competition for them existed or would be excited, recourse has been had to the plan of disposing of them by public auction. This method has been attended with the best results in the St. Maurice territory where a sale was made last fall. Fourteen berths, containing an area of 572 square miles, were sold, realizing the sum of \$2,569 for bonus and ground rent, besides the sum of \$457.50 payable to the St. Maurice Road Fund. The bonus varied from \$5 to \$1,200. The berths were disposed of to practical lumberers, who are all working them this winter, thus restoring to the St. Maurice a trade which had departed almost entirely from it. This sale was made under regulations, different from those which had been previously in force in that section; a simple bonus, payable at the time of sale, in addition to the ordinary ground rent being called for as the measure of competition."

The fraudulent cutting of timber by squatters and pretended settlers continued to be a source of trouble to the administration in spite of all efforts to repress the practice. On this point the report said:—

"While every means at the disposal of the Government is employed to facilitate settlement, strong measures have been adopted, as the occasion presented itself, to check the inroads of individual speculators upon particular localities, under pretence of settlement, when in reality their only object has been to despoil the land of the timber. The

Land Sales to Speculators Cancelled. Department has not hesitated to cancel sales thus obtained when the facts have been established. The holders of timber limits are often subjected to attacks of this description by parties who enter upon their limits, select the best timbered lots, and effect purchases of them, subject to conditions of settlement which they have no intention of fulfilling. This, though illegal, can no more be prevented, when parties are determined to infringe the law, than can stealing."

The same abuse received a good deal of attention at the hands of the Department during the year 1860, when energetic measures were taken by the Commissioner to abate the evil. Previous regulations for the sale of public land had somewhat contributed to foster the abuse, for while the settler was permitted to cut down and burn any timber in

the course of clearing the land, if he sold any of it he became liable to be treated as a trespasser. The evident absurdity of such a regulation, coupled with the difficulty in enforcing it, naturally led to its being set at defiance and encouraged a spirit of lawlessness and antagonism to the authorities, which led to other inroads upon the forests. New regulations were issued under which the settler was allowed to cut and sell the timber

Settler's Timber to Apply on Purchase. growing on the lot purchased by him, provided the value of the timber was applied in payment of the purchase money due the Crown, and that conditions of settlement, including the building of a dwelling 16 by 20 feet, the clearance of five out of every hundred acres and actual residence for six months had been fully fulfilled. He was also

required to take out a license and pay a fee of \$4. In his report for 1860 Hon. Mr. Vankoughnet thus refers to the extent to which plundering of the public domain was still carried on :—

" As a further step towards legitimizing the lumber trade, I have found it necessary to put in force the existing laws of the country against trespassers in the public forests. Hitherto these forests have been treated in some sections of the Province as if they were public commons, where everybody might enter and cut and slash as he pleased. When seasons of partial prosperity in the lumber trade arrived, a great rush into the manufacture of lumber, and particularly of hewed lumber, generally followed, nearly always resulting in overproduction, and in overproduction, too, of a badly manufactured article. Instances have come to my knowledge this season of individuals of one section of the Trespassers. trade endeavoring to encourage this overproduction by entering into contracts for the delivery next summer of from 75,000 to 100,000 feet of timber, notwithstanding that the party who undertook to furnish it had no timber berth of his own, and relied only on trespassing in the public forest, or in fraudulently obtaining timbered lots out of a lumberer's license to enable him to fulfill his contract. To allow this trespassing to continue would be injurious to the general interests of the trade and of the country ; it would also be unfair towards the licensed lumberman who conforms to the law, and under its protection embarks his capital in making the many improvements necessary to enable him to get his lumber to market with advantage."

After referring to the antagonism arising between settlers and lumbermen, the latter complaining of the inroads of settlers upon the best timbered lots within their limits, while the settlers advanced as a grievance that lumbered-over lots came into their hands depreciated in value, the report pointed out the obvious remedy against this continued clashing of interests :

" When any case of fraud on the part of a pretending settler has been established the Department has cancelled the sale and seized the timber cut on the land. In order, however, by more general action to do away as far as possible with the Proper Surveys. complaints alluded to, and to afford legitimate protection to both the interests mentioned, I have been endeavoring to effect discriminating and descriptive surveys with a view of ascertaining what lands are suitable for settlement, and what are not suitable, and what sections of the country may be reserved and advantageously laid off in timber berths."

Another abuse which Mr. Vankoughnet undertook to reform was the delay in the payment of timber dues, which resulted in a considerable accumulation of indebtedness, and in some instances in fraud, on the Department. To put a stop to the practice the 30th November of each year was fixed as the day for the payment of all timber dues. All amounts then unpaid were charged with six per cent. interest, and it was provided that if not paid before the following 1st of July the license held by the defaulter was to be forfeited. No lumber of any kind was to be exported before the dues thereon were paid. To prevent the practice of shipping lumber cut by trespassers on the public domain to the United States, which was extensively pursued, the co-operation of the Finance Department was obtained. Previous to obtaining clearances all vessels having lumber on board intended for the United States were obliged to furnish the Collector of Customs at the port of shipment with a certificate from the Local Crown Timber Agent that the claim of the Crown on the lumber had been settled.

During the session of 1863 the lumber trade was again the subject of a Parliamentary enquiry. On the 15th of April the House of Commons adopted the following resolution :

Another Commission. "Resolved, that a Select Committee composed of Mr. Dawson, Mr. Dunsford, Mr. McLachlin, Mr. Desaulniers, Mr. Haultain, Mr. Robitaille, Mr. McCann, Mr. Hooper and Mr. Scott be appointed to enquire into the state of the lumber trade in Canada, in relation to the settlement of the country, and the action of the Government in dealing with these interests respectively ; to report thereon with all convenient speed, with power to send for persons, papers and records."

The time at the disposal of the committee was too short to enable them to go thoroughly into the subject, but they examined a number of witnesses and submitted some valuable evidence with a view to a continuance of the enquiry next session.

One point clearly brought out was the unsatisfactory working of the regulation permitting settlers to cut timber for sale on their lots, which operated as an inducement to settle upon land which was mainly valuable for its timber and not adapted for farming. The following conclusions were embodied in the report of the committee :—

"First in importance appears the fact that the existing law, under which the lumber trade of the Province in general is governed, has for several years back been continuously and systematically violated in the Crown Lands Department and an uncertain and ever varying action substituted for the fixed and definite provisions of law under the Statute.

"A former committee of this House, of which the Hon. A. T. Galt was chairman, in 1855, having had the subject under consideration reported as follows :—'With reference to the disposal of timber on the public domain, your committee strongly recommend that no change whatever be made in the terms of upon which limits are held, pending the final decision of your Honorable House, in reference to this most important question, as it is their unanimous opinion that until the system be determined upon and regulated by Act of Parliament a change of the present regulations would be detrimental to the public interests.'

"Your committee entirely concur in the above and would further recommend that whenever even any minor change in the regulations may be thought advisable, it should be published for at least three months before any Order-in-Council be passed to give effect to it, so that the trade may have an opportunity of being consulted in regard to the change contemplated.

"With regard to the supposed difficulties between the lumber merchants and the settlers it appears by the evidence that no diversity of interest exists, but that the trade complains, not of the actual settler, but of those who make a pretence of settlement to break up their limits and secure the timber to which the outlay of their capital has given value.

"The actual *bona fide* settler in like manner, finds the operations of the lumber merchant to his advantage, by reason of the roads constructed and the market for his produce thereby afforded. Your Committee are of the opinion that where such a complete community of interest exists, there need be no difficulty in arranging a system to the mutual satisfaction of both parties. And here again your Committee find that the want of any definite rule is the cause of misunderstanding. The Crown Land Department should divest itself of the power of dealing specially with cases as they arise, and provide and enforce a general system alike intelligible to them all.

"It appears from the evidence that settlement has been unreasonably pushed in some localities quite unfit to become the permanent residence of an agricultural population. Especially has this been the case on some of the Free Grant roads and adjacent country, lying between the waters of the Ottawa and Lake Ontario. Your Committee would refer to the evidence and recommend that the Government should, in all cases, ascertain positively the character of the country before throwing open any tract of land for settlement, so that such lands that are really not fit for profitable cultivation, may

not be thrown upon the market. There being considerable diversity of opinion among the witnesses in regard to some of the localities adverted to, it seems to the committee that the Government should have an examination made by some thoroughly competent and reliable officer, whose report would be available in any further consideration of this subject.

Tenure of Limits. "Your committee would further suggest to your Honorable House, that it would be advisable, for the protection of the public forests of the Province, the commercial value of which is of such vast interest to the country, that a character of greater stability be given to the tenure of timber limits, providing of course against its being made any barrier to the actual settler on lands adapted for cultivation."

During the session of 1864 an attempt was made to complete the work of investigation begun by Mr. Dawson's committee in accordance with the suggestion embodied in the report. On the 17th of March in that year the House adopted a resolution appointing a Select Committee composed of eighteen members, with Hon. Mr. Cauchon as chairman, "to enquire into the causes of the rapid destruction of our forests, and the means to be adopted to prevent it, to consider the expediency of reserving as forests the extensive tracts of land which abound in exportable timber, but are unsuitable for cultivation; of enacting a Forest Law, and to suggest that system which in its opinion is best adapted to the requirements and conditions of the country." No report was ever made by this committee, the approach of the era of political storm and stress which immediately preceded Confederation, and the pressure of more immediate and exigent issues doubtless absorbing all the attention of the legislators.

In 1865 a change in the fiscal year came into operation, in accordance with which the Crown Lands and other departmental reports presented in 1866 covered the period from the 1st July, 1864, to 30th June, 1865, instead of coinciding with the calendar year. Hon. Alexander Campbell, Commissioner of Crown Lands, in his report for that year showed himself to be thoroughly alive to the necessity of an advanced forestry policy on the line of a strict discrimination between cultivable and non-agricultural lands, and the setting apart of the latter as permanent timber reserves. The following paragraph sets forth his views on the subject:

"The value of a very large area of our remaining public lands, as a pine country, is well understood and has not been exaggerated. The exports of the products of the Canadian forests for the seven years terminating 31st December, 1863, deducting timber imported, were valued at \$73,004,312; the value of the products of agriculture consumed in the country I have no means of ascertaining, but the exports of such products during the same period, with a similar deduction, were valued at \$49,951,961. Though much of

Reserves Advocated. it has been denuded of its valuable timber, it is the opinion of the best informed that a large area remains untouched; happily for the interests of the country, the pine exists on lands for the most part unfit for settlement.

It needs a careful discrimination between pine lands exclusively and lands fit for settlement, to place it in the power of the Government to conserve this valuable source of national wealth. Should the whole of our uncultivatable lands be set apart, as I think should be done, as a pine region, and no sales made there, the land would, if the trees were cut under a system of rotation such as is now adopted in Norway and Sweden and in many of the German states, recuperate their growth of merchantable pine in cycles of 30 and 40 years, and pine growing might be continued and preserved for ages to come. In view of the future requirements of this continent and of Europe, and of the singular advantages Canada enjoys as a pine-producing country, I humbly submit that it is of the utmost importance that we should now take steps in this direction."

One result of the continued discussion of the subject and the inconveniences arising from growing scarcity of wood in the older settled portions of Lower Canada, was the passage of the following Act, applicable to that Province alone, which received the Royal assent on the 17th of September, 1865.

An Act to provide for the preservation of standing timber.

"Whereas in most of the old counties of Canada the inhabitants experience serious difficulty in obtaining wood for fuel and building purposes, and whereas it is advisable to profit by past experience, and to adopt measures while there is yet time, to prevent the inhabitants of new townships from being subjected to similar inconveniences; Therefore Her Majesty, by and with the advice and consent of the Legislative Council and Assembly of Canada, enacts as follows:

1. Whenever it shall be expedient to erect into a township any certain extent of the waste lands of the Crown in this Province, it shall be the duty of the Commissioner of Crown Lands to set apart, in such township, a reserve of wood land, which shall form not more than one-tenth or less than one-twentieth of the superficial area of such Township township, and the limits thereof shall be fixed and defined at the time of the Reserves. erection of such township, and the Commissioner shall, whenever he deems it expedient, make a reserve for a like purpose in all townships already erected and in which the Crown owns a sufficiency of wood land.

2. Such reserves may be in a single lot, or divided into several lots, according to circumstances.

3. And to provide for the difficulties which might arise respecting the rights and duties as between neighbors (*droits de voisinage, decouverts, fences, ditches and all others*) which the inhabitants residing on lots contiguous to such reserve might claim, the patents of the lots so situated shall contain a condition binding the proprietors, tenants and occupants of such lots, to renounce for ever any claim to all rights and duties as between neighbors (*droits de voisinage*), and a reduction may be made in the selling price of such lots in consideration of the disadvantages which might result from the preceding provision, if the Commissioner of Crown Lands deems it advisable.

4. The Governor in Council may transfer the control and management of every such reserve to such municipal or other authorities willing to undertake the same, as he shall think proper to select, and under such conditions as he shall impose.

5. Nothing in this Act contained shall have the effect of restricting in any way whatsoever, the rights, powers and privileges conferred by Chapter twenty five of the Consolidated Statutes of Canada.

Lower Canada Only. 6. This Act shall apply only to Lower Canada."

This Act was allowed to remain a dead letter, and no timber reserves were ever set aside under its provisions. Here it may perhaps be advisable to depart from the chronological sequence of events relating to timber regulations and management in Canada, and follow up the course of legislation in regard to timber reserves in Quebec under Confederation. A short Act passed by the Quebec Legislature in 1875 provided that:—

Quebec Regulation. "It shall and may be lawful for the Lieutenant-Governor in Council upon the recommendation of the Commissioner of Crown Lands, to set aside certain portions of the forest lands of the Crown, vacant at the time, to remain forest.

"The territories so set apart shall be reserved for the production and culture of timber, and shall be worked and managed and the timber thereon be cut, as shall be ordered from time to time by regulations made by the Lieutenant Governor in Council.

"The timber cut from and upon such reserves shall be sold at public auction."

No action was ever taken under this act as at first adopted, but in 1883 it was amended by the addition of several sections. The new legislation gave the Lieutenant Governor in Council authority to set apart as a Forest Reserve "all the ungranted lands of the Crown now held under licenses to cut timber, except such parts of such licensed lands on which no merchantable pine or spruce timber grows, and which are fit for settlement, and also such other portions of the ungranted lands of the Crown as the Lieutenant Governor in Council, on the recommendation of the Commissioner of Crown Lands,

may think fit to set apart." No land so set apart was to be sold or appropriated for settlement purposes until after the expiration of at least ten years, and not then until it was established to the satisfaction of the Lieutenant Governor in Council that the whole or any part of such territory could be thrown open with advantage. It was provided that in the renewals of licenses after a forest reserve had been created all land previously under license in the locality and not included in the reserve should be excluded.

Under the provisions of this measure a very large area in the western portion of the Province of Quebec running north to the Height of Land was by Order in Council dated September 10th, 1883, set apart as a forest reserve, with the exception of all lots situated in a number of townships included "which hereafter may be found (from inspection made by competent and authorized persons) fit for settlement and destitute of merchantable timber."

This action of the Government excited a great deal of opposition, especially on the part of promoters of Colonization Societies, and the objections raised to the operation of the system were so strong that in 1888 the legislation authorizing the setting apart of timber reserves was repealed and the following substituted :

"In future a timber reserve of twenty per cent. of each lot sold shall be made at the time of the granting of the location ticket or permit of occupation for public lands.

"The Commissioner of Crown Lands may determine, through his agent, the locality where the reserve shall be situated.

"The Lieutenant Governor in Council may make all regulations not incompatible with this Act for the right to cut timber upon the reserve indicated; but the proprietor or the occupant of the lot upon which it exists shall, together with his assigns, remain the perpetual usufructuary of such land, with all the rights he may have as such."

This measure proved no more effective or satisfactory than previous attempts to solve the problem, as it altogether lost sight of the principle of distinguishing between agricultural and non-cultivable lands, and applying radically different methods of management. Its repeal in 1889 closes the chapter of Quebec's forest reserve legislation.

Regulations 13th of June, 1866, by which some important alterations were made as of 1866. will be seen by a comparison of the following with the text of those issued in 1851.

CROWN TIMBER REGULATIONS, 1866.

- Licenses for such vacant berths as the Commissioner of Crown Lands may see fit, together with all vacant forfeited timber licenses, shall be offered for sale at public auctions to be held half yearly in each Timber Agency, on the 10th of July and the 10th of January, (or on such other dates as the Commissioner of Crown Lands may fix by public notice) at an upset price of Four Dollars a square mile or such other rate as he may fix by such notice, and shall be awarded to the highest bidder making immediate payment at the time of sale; and if not then sold shall be granted to the first applicant thereafter making immediate payment of the upset price and ground rent. But in case of two or more applications for any such berth being received at the same time, it shall be immediately again offered for sale by public auction. Unissued Licenses already awarded, however, and such as may be awarded by the Commissioner of Crown Lands on existing grantable applications, under Regulations of 8th August, 1851, shall be granted on the terms upon which they have been or may be awarded. In the intervals between sales, licenses for new Timber Berths for which applications may be made to the Commissioner of Crown Lands, or Crown Timber Agent for the territory in which they lie, may be granted to the first applicants paying in with their applications the upset price and ground rent above mentioned. Not more than one berth to each applicant — the bonus to be returned should the berth be relinquished as valueless within six months without cutting timber on it.

- Applications must be in writing and the spaces asked in them must be distinctly described in connection with known points established by survey or boundaries already defined, or if in surveyed townships the lots and ranges must be stated.

3. No timber Berth shall be licensed in unsurveyed lands exceeding ten miles in length by five miles in breadth or fifty superficial miles in area and half that size in surveyed townships, the area to be estimated by the Crown timber agent or other authorized officer.

4. All timber licenses are to expire on the 30th April following the date thereof.

5. Newly granted Licenses, and renewals of licenses that have been duly occupied, shall be subject to a yearly Ground Rent of fifty cents each superficial mile of area included within their limits, estimated as before mentioned; but in computing the ground rent no license shall be charged at less than eight miles of area.

6. The Ground Rent to be exacted on the renewal of any license shall be double that of the preceding year if the berth licensed has not been duly occupied, increasing annually in that proportion while the berth continues unoccupied (excepting the year succeeding that in which the license has been first granted, if not in a surveyed township); but the so increasing ground rent shall not exceed the rate of twenty-three shillings and four-pence a mile, (being equal to the lowest amount of duties on square timber the ground would yield if duly occupied, added to the rate of fifty cents first mentioned) reverting to the original rate on the berth being duly occupied. The making of an average of five hundred feet of square timber or 20 saw logs to the mile, to be considered as due occupation. No claim for reimbursement of ground rent over calculated to be entertained after the issue of license.

7. No timber berth shall be forfeited for the non-occupation of it, provided the increased ground rent on that account be duly paid; but any berth on which the increased ground rent is evaded by false statements as to occupation, shall (after the holder of it has had an opportunity of being heard in opposition) be granted to the first applicant pleading such evasion before the first day of November and proving the same by the affidavit of a commissioned Surveyor before the first day of December following the date of the false statement made. If half occupation only be proved, the holder of the license may retain one-half the berth after it has been equitably divided by the Crown Timber Agent.

8. License holders who shall have duly complied with all existing Regulations shall be entitled to renewals of their licenses, provided they shall have made and delivered to the Crown Timber Agent of the locality, before the thirtieth day of September, or such prior date in any locality as the Commissioner may fix, sworn statements of the number and description of pieces of timber and saw logs cut by themselves or by others to their knowledge upon each of the berths held by them during the previous season: and shall have paid to the Crown, on or before the fifth day of December following, the ground rent payable for renewal of their licenses for the ensuing season; but should they fail to comply with these conditions in respect to any berths held by them, such berths shall thereby become vacant and the right to license therefor forfeited and they shall be sold at public auction or be otherwise disposed of as before mentioned, excepting that if double the ground rent otherwise chargeable be paid for omitting to furnish the statement above mentioned, and payment be made before the day of sale with ten per cent. in addition for each month of the delay in payment, the berth may be re-licensed to the former holder.

9. License holders desirous of obtaining renewal of license must make application for such renewal to the Crown Timber Agent of the locality before the 1st of July in each year, stating what berths have been duly occupied, failing which such berths shall be charged with the rate of ground rent payable on non-occupation.

10. Crown Timber Agents shall keep registers of all licenses granted or renewed by them and transfers thereof, which, together with their plans of licensed berths and vacant ground, shall be open for public inspection.

11. Transfers of timber berths to be in writing, and if not found objectionable by the Crown Lands Department, or agent for the granting of licenses, to be valid from the date on which they may be deposited in the hands of the latter; but no transfer to be accepted while the party transferring is in default for non-payment of dues on timber to the Crown.

12. Timber berths are to be described in new licenses as "not to interfere with prior licenses existing or to be renewed in virtue of Regulations" on the date of their first being issued. Where licenses clash, the one of more recent origin is to give way to that of prior date, computing back to the season it was last acquired at auction, or by grant from the Crown. And should any license, by error or defect in its description, be found evidently incompatible with the intention or regulations under which it was granted, the Commissioner of Crown Lands may cause it to be cancelled or amended.

13. The Inspector of Crown Timber Agencies at Ottawa, and any officer thereunto authorized elsewhere, shall, at the written request of any person interested, issue instructions stating how the boundaries of timber berths should be run to be in conformity with existing licenses. The surveys are to be performed at the expense of the parties requiring them, who must cause copies of the plans and field notes of the surveys to be delivered to the officer giving the instructions, subject to his examination and approval, to be paid for by him and kept on record by the Crown Timber Agent of the locality.

14. In cases of contestation as to the right to berths or the position of bounds, the decision of the Crown Timber Agent of the locality or the Inspector of Crown Timber Agencies, or other officer authorized by the Commissioner of Crown Lands, shall, on notification thereof being given to the parties or their representatives on their premises, or sent to their address, be binding upon the parties unless reversed by arbitration commenced within three months of such notification.

15. To prevent delay or disputes as to arbitrators it shall only be necessary for the party thinking himself aggrieved by such decision to notify in writing to the officer who has given it, his dissent and the arbitrator he has appointed. It shall then be the duty of the officer who has given the decision to take the place of arbitrator on the other part, and in case of their not agreeing as to an umpire, should one be required, the Commissioner of Crown Lands shall appoint one, on request of either of the parties or either of the arbitrators — such arbitrators may receive evidence obtained subsequent to the decision and each of them and the umpire are to be paid five dollars for each day they are engaged on such arbitration, by the parties jointly.

16. Timber cut under license shall be paid for at the following rates, viz.:

	s.	d.
Oak and Walnut, per cubic foot.....	0	$1\frac{1}{2}$
Elm, Ash and Tamarac.....	0	1
Red and White Pine, Birch, Basswood, Cedar, Spruce, etc.....	0	$0\frac{1}{2}$
Pine Saw Logs, each, $13\frac{1}{2}$ feet long.....	0	6

or, ten cents per standard log of $13\frac{1}{2}$ feet, 20 inches in least diameter.

Unmeasured culls to be charged at average of the lot they are in.

Spruce Saw Logs, each $13\frac{1}{2}$ feet long.....	0	$2\frac{1}{2}$
Staves, Pipe, per mille.....	32	6
do W. Indian.....	10	0
Cordwood (hard) per cord.....	0	8
Soft Wood, per cord.....	0	4

Railway Timber, Knees, etc., 10 per cent. ad valorem.

To be charged upon the quantities shewn by measurement under the direction of the Supervisor of Cullers, or Deputy Supervisor, at Quebec, or Montreal, or other place of sale or shipment, or by other reliable measurement, where that cannot be obtained, otherwise each stick of White Pine may be estimated as containing 70 cubic feet.

Red Pine as containing 38 cubic feet.

Other kinds of wood 34 cubic feet.

And when any license holder is in default for, or has evaded the payment of dues to the Crown on any part of his timber, they may be levied on any other timber of his, cut under license, together with the dues thereon.

17. All square timber, logs, deals, boards, or other stuff leaving the Agency in which it has been cut in any form, must be submitted to counting or actual measurement, and statements under oath must be furnished as to the quantities of timber and logs cut under license whenever required. Owners or lessees of Saw-Mills cutting under license must show by such sworn statements the total number of each kind and length of logs cut or acquired by them, and taken to their mills, or where left, each season, giving the number in standards also, and must prove by satisfactory affidavits on what lots, and how many on each lot, such as are from private lands, have been cut; clearances to be refused in case of non-compliance.

18. Before moving any raft or parcel of timber, lumber or saw logs from the agency in which it has been cut, the owner or person in charge thereof shall make report thereof to the Crown Timber Agent, making, if required, declaration upon oath as to the number of pieces of each kind of wood contained therein, and the number of cribs; and to exempt timber from private land, if any, from dues as Crown timber,—must furnish satisfactory affidavit stating what lots it was cut upon and how much on each lot,—whereupon he shall obtain a clearance from the Crown Timber Agent, stating the number of pieces in the raft or parcel, how many, if any, have been satisfactorily proved to be from private lands, and on how many, if any, the dues have been previously or then paid. On the arrival of any such raft or parcel at Quebec, or any intermediate place, or other port, for sale or shipment, the owner or holder of it shall make report thereof to the Collector of Crown Timber Dues, or Deputy Supervisor of Callers, or other appointed officer, within forty-eight hours, and in addition to the quantity shewn by the clearance as subject to dues, any surplus timber beyond the number of pieces stated therein, on being ascertained by the Collector of Crown Timber Dues, Deputy Supervisor of Callers or other authorized officer, if not satisfactorily accounted for, shall be held as having been cut upon Crown Lands and be subject to the payment of dues accordingly.

19. Parties omitting to report the departure of their rafts or other timber from the Agency in which they held license, or the arrival thereof at Quebec or Montreal or other port or place, for sale or shipment, within the Province as before mentioned, may be refused further license—and be subject to forfeiture of the timber for evasion of Regulations as provided in section 3rd of Cap. 23, of the Consolidated Statutes of Canada.

20. Occupants, grantees or purchasers of Public Lands who have not completed all conditions of sale, or grant, cutting timber without license (except for clearing, building or fencing thereon); or others doing so by their permission, shall be subjected to the penalties established by law for cutting timber without authority.

21. Persons evading or refusing the payment of timber or slide dues, or the final settlement of bonds or promissory notes, given for the same, or in default with the Crown Timber Office or Agent, also persons taking violent possession of disputed ground before obtaining decision in their favor, and persons refusing to comply with the decision of arbitrators or with Regulations established by Orders in Council, or who forcibly interrupt Surveyors, shall be refused further licenses, and their berths become disposable to others on the expiration of their licenses.

22. Licenses are to be granted on the annexed form in duplicate, the clause at the foot thereof must in the duplicates be signed by two securities and the description of each berth is to be written on the back thereof. The duplicates to be kept of record by the Crown Timber Agent.

23. Dues of all kinds on timber cut under license remaining unpaid on 30th November following the season in which it was cut, to be subject to interest from that date, but without prejudice to the power of the Crown to enforce payment of such outstanding dues.

The most noteworthy changes were the provision for regularly held and systematic auction sales for vacant timber berths, and the fixing of an upset price in all cases, upon the berths to be offered. The new regulations, moreover, were a good deal more stringent in the provisions designed for the prevention of fraud in evading the payment of timber dues.

The Reciprocity Treaty with the United States, under which, as will be hereafter shown, the exportation of forest products, more especially sawn lumber, had greatly increased, expired on the 17th March, 1866. By the new tariff, Export Duties which came into force on the 27th of June, export duties were After Reciprocity. imposed on saw logs and shingle bolts shipped from Canada, excepting to any of the British North American Provinces, at the rate of \$1.00 on every thousand feet, board measure, for pine, and 50 cents for every thousand feet, board measure, for spruce. The first tariff adopted under Confederation during the session of 1868, imposed additional export duties on timber from the 1st of October in that year, as follows:—

Shingle bolts, per cord of 128 cubic feet.....	\$1 00
Stave bolts, " " "	1 00
Oak logs, per M.....	2 00
Spruce logs, "	1 00
Pine logs, "	1 00

By the Confederation of the British North American Provinces, consummated by the establishment of the Dominion of Canada on July 1st, 1867, the management of public lands and timber was relegated to the several Provincial administrations. The British North America Act, 1867, in defining the respective powers of the Dominion and Provincial Governments includes, among the subjects coming exclusively within the scope of the Provincial legislators, "The

management and sale of the public lands belonging to the Province, and Provincial of the timber and wood thereon." As will have been noted, from Jurisdiction. the frequent references to legislative action and quotations of official utterances during the few years which preceded the union of the Provinces, a very considerable advance had been made in public opinion on the subject of forestry. The question was being intelligently studied in all its bearings by those charged with the responsibilities of legislation. Men were beginning to understand the true remedy for evils which had been developed, not so much by any positive neglect or misconduct on the part of those in charge of affairs, but rather as the result of crude, unscientific methods under which the distinction between the two classes of public land requiring essentially different systems of management was largely ignored. Public, or at least legislative and influential sentiment, appeared to be seriously aroused to the danger

Agricultural and Forest Lands. to the practical interests of the country to be entailed by the rapid disappearance of the forests covering the non-agricultural region and forming its only possible source of productiveness, and to be fast crystallizing in the direction of a system of scientific forest management, as distinct from methods of mere sale and exploitation.

But with the advent of the larger and more agitating questions involving the rise and fall of parties, and culminating in the union of the previously isolated provinces, opening broader vistas for Canadian aspirations and enterprises, and introducing a host of additional responsibilities and fresh problems, it is not surprising that the matter of forest preservation was thrust into the background, and for many years thereafter received but little attention. But it is certainly a curious illustration of the ebb and flow of public opinion, and the manner in which movements for the abatement of public evils or the promotion of needed reforms frequently subside after having attained a considerable headway, only to spring into activity again many years afterwards, when their former influence has been well nigh forgotten.

Some details showing the extent and principal characteristics of the timber industry at the time of Confederation may appropriately be presented. The report of the Crown Lands Department of Canada for 1866 gives the amount collected during Revenues that year for timber dues and ground rents as \$338,302, and for slide dues in 1866. \$63,483. The total exports of forest products for the year ending June 30, 1867, are valued by the Trade and Navigation returns at \$13,948,648, as compared with total exports of agricultural products of a value of \$16,765,981.

Nearly all the exported forest products found a market either in Great Britain or the United States, the proportion consigned to each of these countries being nearly equal, as Britain received shipments to the value of \$6,889,783, while those sent across the border were valued at \$6,831,252. These figures indicate a very considerable change in the conditions of the trade during the course of the decade immediately preceding Confederation, at the beginning of which the British demand was double that of the Americans. The total exports of forest products to Great Britain for the three years 1854-5-6 amounted in value to \$18,288,702, while the aggregate shipments to the United States for the same period were valued at \$8,894,218. It will be

Exports to United States. seen therefore that at the time of Confederation the American demand for Canadian timber and lumber had more than doubled, while that of Britain remained comparatively stationary. The principal increase in the volume of the growing American trade was in sawn lumber. While "plank and boards" to the value of \$1,866,712 were exported from Canada to the United States in the year ending Jan. 5th, 1854, the same item figures in returns for 1867 to the extent of \$5,043,367. This development of the sawn lumber trade with the United States, while to a certain extent fostered under the favorable conditions of the Reciprocity Treaty, was no doubt in the main due to the rapid growth of population in the Eastern States, coincident with a gradual diminution in their home sources of supply, rendering it necessary for them to look to Canada for their requirements.

In 1868 the Dominion House of Commons set on foot an enquiry into the best means of protecting hemlock timber from the destruction caused by the demand for hemlock bark for tanning purposes. A select committee was appointed on April 1st, composed of Mr. Pope, Hon. Mr. Dunkin, Hon. Mr. Wood, Hon. Mr. Huntington, Mr.

Export of hemlock bark. Brown, Mr. Masson of Soulange, Mr. Joly, Hon. Mr. Beaubien, Mr. Senecal and Mr. Burpee "to enquire into and report upon the best means of protecting hemlock timber from destruction caused by those manufacturing the extract of hemlock bark and the exportation thereof from Canada." The report of the Committee, based on answers to questions submitted to a number of those having special interest in the question or facilities for information in different parts of the country, presents some considerations which have a wider significance than their bearing upon the specific subject of the investigation, and are of general applicability to the problem of utilizing forest products with the minimum of waste and to the greatest advantage.

The Committee concluded that the bark consumed in local tanneries was applied to a legitimate use, benefitting both the settler and the country at large; the settler was enabled to defray the cost of clearing the land by the sale of the bark and at the same time had opportunity to dispose of the timber to advantage, as the work of clearing gradually proceeded. The export of bark and the manufacture of "Extract of Bark" they regarded in a very different light. The quantity of bark exported annually from Canada to the United States was estimated at not less than 100,000 cords, which, at ten

Extract of bark. cords to an acre, represented 10,000 acres annually stripped for the supply of American tanneries. This process resulted in the wholesale destruction of timber, the trees being generally left to rot on the ground, largely increasing the danger of forest fires. The rate of consumption was, however, liable to be indefinitely increased by the establishment of works for the manufacture of "extract," capable of being transferred from place to place so long as a supply of the raw material was obtainable anywhere, which was likely to have a much more serious effect upon the hemlock forests, as the extract thus made could be sent to any part of the world, whereas the exportation of the bark was, by the cost of transport, limited to a comparatively small radius. It was argued on behalf of the manufacture that it furnished employment, distributed large sums in wages, and gave an impetus to other industries, etc., but while admitting the force of this contention the Committee regarded these benefits as more than counterbalanced by the wasteful and destructive nature of the industry. "One of these factories," says the report, "upon a basis of calculation afforded by those concerned in them, will consume all the bark available within

a radius of about ten miles, at the present rate of consumption, within a period of from ten to twelve years, when it must be moved to a new field of operations. The injurious effect of its removal from the neighborhood will be such as to far more than counterbalance any temporary advantage that may have been derived from a spasmodic and short-lived activity and enterprise; and the bark that would have sufficed to supply for an indefinite period, a tannery giving employment to the population, will have disappeared altogether. The loss to the country at large will also be serious. At present we have an ample supply of material for our tanneries, enabling us to compete successfully with other countries in the manufacture of leather; but if for the sake of A transient encouraging the manufacture of the extract we suffer ourselves to be de-industry. prived of this advantage we sacrifice a permanent and most important manufacturing interest for one that, at the best, is but transient, and of slight comparative importance.

The report concludes as follows:—"After a most careful consideration of the question, your committee can only come to the conclusion that unless some steps are speedily taken to check the wasteful and extravagant rate of consumption now going on, that is really for the benefit of foreign countries at the expense of Canada, many years will not have elapsed before our own tanneries will be seriously crippled, if not To Prevent closed altogether, for lack of that which we are now so freely giving away Export. to others, we shall be no longer able to compete successfully with other countries in the manufacture of leather; and a large portion of our forest land will not only be denuded of that which constitutes its chief value, but will be rendered practically unfit for settlement. Under these circumstances, your committee feel it their duty to press upon the Government the necessity of adopting such measures as may be calculated to check the evil complained of."

The particular method favored by the Committee for dealing with the matter had been previously indicated in a brief preliminary report presented to the House on 4th of May, which reads as follows:—

"Your Committee have made a careful enquiry as to the extent of the Hemlock forests in different parts of the country and the rate at which the consumption of bark is proceeding in connection with the tanneries, etc. They find that a very large proportion of the bark annually taken from the forest is exported to the United States, threatening in a very short time to diminish materially the supply for home consumption.

Your Committee, therefore, feel it their duty to urge upon the Export Duty Government the expediency of imposing an export duty of one dollar Recommended. per cord upon Hemlock Bark, with a view of checking the wholesale destruction of our Hemlock forests now going on."

No action was taken by the Government in the matter. The proposal met with the active opposition of the interests affected and a number of petitions against the imposition of an export duty from those engaged in the industry, and the farmers in the respective neighborhoods where it was carried on were presented, and as no counter agitation re-inforced the Committee's recommendation the subject was dropped.

The conditions disclosed by this investigation and the considerations influencing the conclusion reached by the Committee have been presented somewhat more fully than is warranted by the intrinsic importance of the enquiry, on account of their bearing upon similar questions of an international character, affecting the management of our natural resources, which are likely to arise with increasing frequency in the future. The case of the exportation of hemlock bark and extract presents a striking analogy to the question of the shipment of saw logs in an unmanufactured state—and the Bearing on Present Problems. forcible presentation in the report above quoted of the injury sometimes involved to the permanent and substantial interests of the country by the toleration of a lucrative though temporary and wasteful exploitation of raw material to be manufactured abroad, is full of significance in its application to the existing situation.

UNDER CONFEDERATION.

The report of Hon. Stephen Richards, the first Commissioner of Crown Lands for Ontario, for the year 1868, contains the following paragraph relating to the Woods and Forests Branch.

"The timber dues, ground rent and bonus accrued during the year amount to \$190,237. The total timber revenue collected on account of such accruals, and of the arrears of previous years, is \$234,209. Of this amount the sum of First Provincial Timber Sale. \$14,446 was received as bonus on the south half of the Township of Sherbourne, sold in two timber berths by public auction at Peterboro on the 23rd of December, 1868, Berth No. 1, covering an area of 20½ square miles (and which had previously suffered from fire and trespass) was sold at a bonus of \$249 per square mile. For Berth No. 2, covering an area of 18 square miles, a bonus was obtained of \$519 per square mile, being by far the largest bonus ever received by the Crown on a sale of timber limits in this Province."

The question of saw logs exportation, which has since assumed such prominence, cropped up during the first session of the Provincial Legislature, when on February 26th, 1868, "on motion of Mr. Christie, a Select Committee was appointed to enquire into the nature of and extent of the exportation of saw logs, shingle bolts and stave bolts cut in this Province, and exported from the Dominion as follows:—Hon. Mr. Richards, Messrs. McDougall, Paxton, Hooper, Cockburn and Christie. No report appears to have been made by the committee.

On January 9th of the same year, Mr. Rykert moved for returns showing details as to the number of timber licenses granted since 1860, and among the particulars asked for was, "so far as practicable what portions of said lands are fit for agricultural purposes?" The returns were brought down in due course, but no attempt was made to furnish any information as to how much of the area under license was of a cultivable character. Meanwhile the timber revenue of the Province was increasing by leaps and bounds. The report of the Commissioner of Crown Lands for 1869 stated that a more careful super-vision over lumbering operations was inaugurated than was believed to have previously existed. Reference was made to the issue of new Crown Timber Regula-

Increasing Revenues. tions in April, 1869, by which the dues were raised fifty per cent. in excess of the former rates, and a uniform rate of ground rent fixed. The regulations also provided for the more satisfactory accounting for the timber and saw logs cut upon public lands. The accruals from timber dues, ground rents and bonuses during the year amounted to \$508,561, and the collections were \$435,397. This very substantial increase in the revenue was emphasized by a comparison between the results of Crown Lands management under the ante-Confederation Canadian administration, and under the new Ontario regime respectively, as shown by the following table:—

1. Timber revenue derived from the whole Province of Canada:—

The largest revenue for any one of the 10 years ending 31st December, 1866, was.....	\$386,656
The average yearly revenue during the 10 years was.....	295,409

2. Timber revenue derived from Upper Canada alone:—

The largest revenue for any one of the 10 years ending December 31st, 1866, was	197,093
The average yearly revenue during the 10 years was.....	150,935
The timber revenue for the year ending December 31st, 1867, was	152,266
The timber revenue for the year ending December 31st, 1868, was.....	234,209
For the year ending December 31st, 1869	435,397

"In round numbers," concludes the Commissioner in a tone of justifiable exultation "the timber revenue from the Upper Canada woods and forests is during the present year \$238,000, or say 120 per cent. in excess of the highest amount it ever reached in any one year previous to the 1st of January, 1867; and is \$48 000, or say 121 $\frac{1}{2}$ per cent. in excess of the highest amount ever received from the whole of the Province of Canada in any year previous to the last-mentioned date."

The new Crown Timber Regulations above referred to are as follows:—

1. The Commissioner of Crown Lands may, at his discretion, cause the limit lines of any timber berths under license, which have not been already surveyed, to be properly surveyed and run, the costs of such survey to be paid by the holder of **Regulations of 1869.** the license, and where two or more licensees are interested in the survey, the Commissioner shall determine what portion of the costs of survey shall be paid by each, and such costs of survey shall be a charge upon the Timber Berth, to be paid with the ground rent before renewal of the License.
2. The Commissioner of Crown Lands, before granting any licenses for new Timber Berths in the unsurveyed territory, shall, as far as practicable, cause the section of country where it is intended to allot such Berths, to be run into Townships, and each Township when so surveyed shall constitute a Timber Berth, but the Commissioner of Crown Lands may cause such Townships to be subdivided into as many Timber Berths as he may think proper.
3. The Berths or limits when so surveyed and set off, and all new berths or limits in surveyed territory, shall be explored and valued and then offered for sale by public auction at the upset price fixed by such valuation, at such time and place, and on such conditions, and by such officer, as the Commissioner of Crown Lands shall direct by public notice for that purpose, and shall be sold to the highest bidder for cash at the time of sale.
4. All forfeited Timber Berths may be offered for sale on the second Tuesday in August in each year, by public auction, at such upset price and at such place as the Commissioner of Crown Lands may fix and appoint by public notice, or at such other rate as he may fix by such notice, and shall be awarded to the highest bidder, making payment at the time of sale, but should the said Timber Berth not be then sold, the same may be granted to any applicant willing to pay the said upset price and ground rent, or on such other terms as the Commissioner of Crown Lands may direct.
5. License holders who shall have complied with all existing regulations, shall be entitled to have their licenses renewed on application to the Commissioner of Crown Lands, or to such local agent as he may appoint for that purpose.
6. The Commissioner of Crown Lands shall keep a Register of all licenses granted or renewed and of all transfers of such licenses; and a copy of such registers, with a plan of the licensed limits, shall be kept by the Crown Timber Agent of the locality, and open to public inspection.
7. All transfers of Timber Berths shall be made in writing, but shall be subject to the approval of the Commissioner of Crown Lands, to whom they shall be transmitted for approval or rejection, and they shall be valid only from the time of such approval, to be expressed in writing.
8. Timber Berths are to be described in new licenses as "not to interfere with prior licenses existing or to be renewed in virtue of regulations." When the description of any berth or boundary, as given by any license, clashes with the description of any other licensed berth or territory, the license of more recent origin (tracing back only to the time when such license or any previous license, of which it is a renewal, was first granted) shall give way, and the Commissioner may amend or cancel such license wholly or in part, and substitute another in place thereof, so as to correct the description of the berth or limit intended to be licensed; and in all cases where any license has issued in error or mistake, or is found to be inconsistent with any other license, or inconsistent or

incompatible with the regulations under which it was granted, the Commissioner of Crown Lands may cause it to be cancelled or amended, or he may refer all matters in dispute, with reference to the boundaries and position of Timber Limits, to arbitration, each of the contending parties to choose one Arbitrator, and the Commissioner of Crown Lands shall appoint an Umpire, naming a day on or before which the award of such Arbitrators or of such Umpire shall be made and delivered to the parties, and such award shall be binding on them.

9. Timber cut on limits for which license has been suspended or held in abeyance, shall be considered as having been cut without authority, and treated accordingly.

10. Occupants, locatees or purchasers of Public Lands, who have not completed all the conditions of sale or location, shall not, unless under Settlers' license or for clearing, building or fencing purposes on the said land, be permitted to cut timber or logs thereon, or to dispose of it to others. Persons found doing so shall be subject to the penalties established by law for cutting timber on the public lands without authority.

11. All Timber Licenses are to expire on the 30th April next, after the date thereof, and all renewals are to be applied for and issued before the 1st July following the expiration of the last preceding license, in default whereof the right to renewal shall cease and the Berth or Berths shall be treated as forfeited.

12. No renewal of any license shall be granted unless or until the Ground Rent, and all costs of survey, and all dues to the Crown on timber, saw logs, or other lumber cut under and by virtue of any license, other than the last preceding shall have been first paid.

13. All Timber Berths or limits shall be subject to an annual Ground Rent of \$2 per square mile, payable in advance before the issuing of any original license or renewal.

14. All timber, saw logs, wood or other lumber cut under any License now in force or under any License which may be hereafter granted, shall be subject to the payment of the following Crown dues, that is to say :—

Black Walnut and Oak, per cubic foot.....	\$0.03
Elm, Ash, Tamarac and Maple, per cubic foot.....	0.02
Red and White Pine, Birch, Basswood, Cedar, Buttonwood and Cottonwood, and all Boom Timber, per cubic foot.....	0.01 $\frac{1}{4}$
All other woods	0.01
Red and White Pine, Basswood, Buttonwood and Cottonwood saw logs, per standard of 200 feet board measure.....	0.15
Walnut, Oak and Maple saw logs, per standard of 200 feet board measure.....	0.25
Hemlock, Spruce and other woods, per standard of 200 feet board measure	0.10
All unmeasured cull saw logs to be taken at the average of the lot, and to be charged for at same rate,	
Staves, Pipe, per mille.....	\$7.00
do. West India, per mille	2.25
Cordwood (hard) per cord	0.20
do. (soft) do.	0.12 $\frac{1}{2}$
Hemlock Tan Bark, per cord.....	0.30
Railway Timber, Knees, etc., to be charged 15 per cent. ad valorem.	

15. The duties on timber shall be charged upon the quantities shown by the specification of measurement at the office of the Supervisor of Cullers at Quebec, or that of the Deputy Supervisor of Cullers at Sorel or Montreal, or by other reliable measurement, but where such actual measurement cannot be obtained, each stick of white pine timber shall be estimated as containing 70 cubic feet, Red Pine as containing 38 cubic feet, Oak 50 feet, and Elm 45 feet, and all other wood as containing 34 cubic feet.

16. All Licensees or occupants of Timber Berths shall furnish through themselves, their agents, cutters and foremen, to such agent or agents as the Commissioner of Crown Lands may appoint for that purpose, and at such time and place as such agent or agents may require, satisfactory proof upon oath as to the exact locality where all the Timber, Saw Logs, and other Lumber in his or their possession were cut, giving the number of pieces, and description of Timber, Saw Logs, and other Lumber cut by themselves and others to their knowledge upon each of the Timber Berths held or occupied by him or them respectively, designating, what quantity, if any, had been cut on settlers' lands, giving the names of such settlers, the name of the Township, and the number of each lot and concession, exhibiting at the same time for the inspection of such agent or agents, the Books of count and measurement of such Timber, Saw Logs, and other Lumber under his or their control respectively; and shall, moreover, furnish such Agent or Agents all required information and facilities to enable him or them to arrive at a satisfactory determination as to the quantity and description of timber, saw logs, and other lumber made by them or him, or held in his or their possession respectively, on which the Government dues are chargeable; and in the event of such Agent or Agents deeming it expedient to cause such timber, saw logs, and other lumber to be counted or measured, the said Licensee or occupier of such timber berth and his or their Agents, cutters and foremen shall aid and assist in such count or measurement, but should such Licensee or occupier, or his or their Agents, fail to comply with these conditions, such Licensee shall forfeit all right to renewal of his License, and the berth or limit shall become vacant. And to enable persons who sell their timber under settlers' License to obtain their refund of dues, and timber cut on Patented Lands to pass duty free, it will be necessary for the parties interested to prove, on oath, taken before such Agent or Agents, and to his or their satisfaction, the number of pieces and description of timber and saw logs cut on each lot respectively. And in the event of such proof being deemed unsatisfactory, the said Agent or Agents may determine the same by causing a strict count of the stumps to be made and then certifying according to such count.

17. The Commissioner of Crown Lands or any authorized Agent, shall at all times have free access to and be permitted to examine the books and memoranda kept by any Licensee shewing the quantity of lumber in board measure sawn by him from logs cut on his timber berth or berths, and failing to produce such books and memoranda when required to do so, will subject such Licensee to a forfeiture of his right to a renewal of his License.

18. When any License-holder is in default for, or has evaded the payment of dues to the Crown on any part of his timber or saw logs, such dues may be levied on any other timber or saw logs belonging to such defaulter cut under license, together with the dues thereon.

19. Before moving any Raft, or parcel of timber, lumber or saw logs from the Agency in which it has been cut, the owner or person in charge thereof, shall report the same to the Crown Timber Agent making, if required, declaration upon oath, as to where the said Timber was cut, the number of pieces and description of each kind of wood contained in such raft or parcel of timber, and the number of cribs, stating at the same time, the number and description of pieces cut on private lands, also on lands under Settlers' License, giving the names of the owners or Licensees of such land, with the name of the Township, and number of each lot, and concession, and should such Crown Timber Agent not be satisfied with the correctness of such report, he shall cause a strict count to be made of the timber in such raft; and on being satisfied of the correctness of such report or count, the said Crown Timber Agent may grant a clearance, in due form, for such raft, stating the number of pieces and description of timber contained therein, distinguishing the timber cut on private lands and under Settlers' License, from that cut on the Crown Domain.

20. The owner or holder of any such raft or parcel of timber shall, within twenty-four hours after the same shall have arrived at its destination at Quebec, Sorel, Montreal or other port of sale or shipment, report the arrival of such raft to the Collector of Crown Timber Dues, or if at Sorel or Montreal to the Deputy Supervisor of Cutters, and should the said raft

be found by the specification of measurement to contain a greater number of pieces of timber than is noted in the clearance, the surplus number of pieces, if not satisfactorily explained, shall be held as having been cut on Crown Lands without authority, and subject to the payment of dues accordingly.

21. Parties omitting to obtain their clearance at such agency, or omitting to report the arrival of such raft at its destination as above mentioned, may be refused further license, and may be subject to forfeiture of the timber for evasion of regulations, as provided in Cap. 23 of the Consolidated Statutes of Canada.

22. Persons evading or refusing the payment of timber dues, or the final settlement of bonds or promissory notes for the payment of such dues, or in default with the Crown Timber office or agent; also persons taking forcible possession of disputed ground before obtaining decision in their favor, and persons refusing to comply with the decision of arbitrators or of the umpire, as provided by the 8th section of these Regulations, or with the Regulations established by Order in Council, or who forcibly interrupt surveyors in the discharge of their duty, shall be refused further licenses, and their berths shall be forfeited at the expiration of the then existing license.

23. Dues of all kinds on timber cut under license remaining unpaid on the 30th November following the season in which it was cut, shall be subject to interest from that date, but without prejudice to the power of the Crown to enforce payment of such outstanding dues at any time the Commissioner of Crown Lands may think proper.

These regulations were amended by Order in Council dated the 18th of May, 1899, by the substitution for Sec 10, as given above, of the following provision :

10th. Occupants, locatees or purchasers of public lands shall not unless under settlers licenses or for clearing, fencing or building purposes on the said land, be permitted to cut any description of timber or logs thereon, or to dispose of it to others until they have gone into the actual bona fide occupation of the said land, have built a habitable house thereon 16x20 feet at least, have resided thereon actually continuously for at least six months, and cleared and put under cultivation two acres at least of the said land. Persons contravening this regulation shall be subject to the penalties established by law for cutting timber on the Public Lands without authority. This regulation shall not be construed as in any way affecting the regulations respecting pine and cedar trees of the 27th day of May, 1869, and the 3rd April, 1880.

A measure of some importance to the lumber trade was passed by the Dominion Parliament during the session 1870. "An Act Respecting the Marking of Timber" provided that every person engaged in the business of lumbering or getting out timber

Timber Marks. Provinces of Ontario or Quebec, should be subject to a penalty of fifty dollars for failure or neglect to select a mark or marks to be put in a conspicuous place on each log or piece of timber floated or rafted. A timber mark register was to be kept in the office of the Minister of Agriculture, where all marks were to be registered, giving the party registering the same the exclusive right to use such mark. Provision was made against the duplication of marks, or the adoption by one lumberman of any mark bearing such a close resemblance to another previously registered as to cause confusion, and a penalty of not less than \$20 or more than \$100 was imposed for the use of any registered mark by any other person than the proprietor.

The practice of throwing saw dust and other mill refuse into navigable streams and rivers was at this time very general among the owners of saw mills, with the frequent result of obstructing navigation by the accumulation of debris, as well as of destroying the fish in water where they formerly abounded. On February 20th, 1871, Mr. Cartwright introduced a bill for the better protection of navigable streams and rivers, into the

House of Commons, by which this practice was prohibited. It was referred to the Committee on Banking and Commerce, who reported the bill back to the House on the ground that they were entirely without evidence as to the necessity of such legislation and recommended the subject to the consideration of the Government with a view to enquiry by Commission

or otherwise. A Commission was accordingly appointed consisting of Hon. Hamilton H. Killaly of Toronto, John Mather of Chelsea, and R. W. Shephard of Montreal. Their report strongly favoured the proposed legislation, the need of which was plainly indicated by the testimony adduced, showing the serious impediments to navigation which in many instances had resulted from throwing saw mill refuse into the water. The measure when introduced in 1873 became law. Its principal clause provides that—

“From and after the passing of this Act no owner nor tenant of any saw mill nor any workman therein, nor other person or persons, whosoever, shall throw or cause to be thrown, or suffer or permit to be thrown, any sawdust, edgings, slabs, bark or rubbish of any description whatsoever, into any navigable stream or river, either above or below the point at which such stream or river ceases to be navigable.” A fine of not less than twenty dollars was imposed for the first offence, the penalty for subsequent infractions of the law being not less than fifty dollars. It was made the duty of the fishery officers to examine and report on the condition of navigable streams and rivers from time to time and to prosecute offenders. The Governor-in-Council was given power to exempt any stream or river or any part thereof from the operation of the Act, on its being shown to his satisfaction that the public interest would not be injuriously affected thereby.

The question of the maintenance of an export duty on saw logs came up in the Dominion Parliament again during the Session of 1874. On the 9th of April a Select Committee composed of Messrs. Charlton, Currier, Mc Dougall (Renfrew), McCallum, Scrivener, Colby, and Stuart were appointed to enquire into and report on the working of the Act Cap. 44 of 31 Vic., so far as it relates to imposing an Export duty upon saw logs, shingle bolts, and stave bolts. The report of the Committee, presented on the 30th of April, was as follows:—

“That the Export Duty on saw logs, shingle bolts and stave bolts, imposed under Schedule F. of the Tariff Act of 1868, Cap. 44 of 31 Vic., is a tax upon settlers and owners of timber, who are prevented by its operation from obtaining the full advantage afforded by the best markets.

“That the Export Duty while reducing the market value of logs and bolts for the benefit of mill owners does not promote the manufacture of lumber, shingles, and staves at the principal Lake Erie Ports, and at many other points in Canada.

“That a large proportion of the export of pine and oak logs is long timber, entering into the same class of consumption as does the square oak export of Canada.

“That exporters of round pine and oak from Lake Erie ports compete in American markets with Michigan timber dealers, to whom the Canadian export duty afford a considerable protection.

“That since the imposition of the Export Duty, a large amount of capital embarked in the round timber trade has been withdrawn from Canada and invested in Michigan.

“That the saw mill interest of Canada has in the opinion of your Committee, been slightly benefited by the Export Duty; and that whatever benefit the Export Duty has conferred upon the saw mill interest, has been given at the direct expense of the settlers and owners of timber.

“That the Export Duty reduced to an ad valorem rate, would be on the average 40 per cent. on stave bolts; 30 per cent. on oak logs; 20 per cent. on pine logs; 25 per cent. on spruce logs, and 25 per cent. on shingle bolts.

“That the Export Duty is an extreme protective measure and partially at least inoperative as such, and that the burdens imposed, by it are unequally distributed, falling as they do entirely upon settlers and other owners of timber.”

An Act abolishing the Export Duty on stave bolts and oak logs was passed in 1875.

In 1886 the remaining export duties were altered, that on shingle bolts being fixed at \$1.50 per cord, spruce logs \$1 per thousand feet, and pine logs \$2 per thousand feet.

Export Duty Increased, The Governor-in-Council was authorized to increase the export duty on pine logs to \$3 per thousand feet. By an Act passed in 1888 the Governor-General was empowered either to reduce or remove these duties whenever it should appear desirable in the public interest to do so. By an Order-in-Council of the 13th November in the same year the export duty on saw logs was increased from \$2 to \$3 per thousand feet; but on July 5th, 1889, the former rate was restored, in view of a probable understanding being reached with the United States for more favorable duties upon our manufactured lumber. The negotiations progressed satisfactorily, and in 1890 Sir John Macdonald promised the removal of the export duty on pine and spruce logs in the event of the United States Congress Abolished reducing the import duty on sawn lumber to \$1 per thousand feet. This in 1890. reduction took place, and on October 11th, 1890, the Canadian Government by Order-in-Council abolished the export duty.

With the accession to power in the United States of the Democratic Party the duty of \$1 per M. on sawn lumber was removed, and free trade in lumber and logs followed between Canada and the States. General business was good on both sides of the line, and in 1892 the timber trade was very prosperous.

The prosperous condition of the market which obtained in 1892 did not long continue. The prolonged period of financial stringency and business depression which set in during the following year in the United States, followed by the **Trade Depression.** imposition of a duty of \$2 per thousand upon sawn lumber, largely destroyed the market for the coarser grades of lumber. Meanwhile large quantities of saw logs were being cut for exportation into the United States in order to furnish American mill owners with the raw material to enable them to meet the demand formerly supplied by Canadian shipments of the manufactured article.

Defensive measures were demanded by the lumber trade, and the Dominion Government was urged to reimpose the export duty of \$2.00 per M. on saw logs, abolished in 1890. As the United States tariff legislation imposing the import duty of \$2.00 per M. on sawn lumber also provided that this duty should be increased by the amount of export duty on logs that might be imposed by any other country, the Dominion Government was naturally reluctant to act. Western Ontario lumbermen who were mainly affected by the competition of their own logs sawn in Michigan, applied for relief to the Provincial Government, and in the session of 1898, at the instance of the Government, regulations requiring that all logs cut on Crown Lands should be manufactured in the Province, were approved by the Legislature. Michigan holders of Ontario timber limits, whose mills had been supplied with logs from them, claimed that this legislation constituted a breach of contract on the part of the Crown, that by the payment of the bonus at the time they acquired the limits they were entitled to cut the pine timber thereon and dispose of it as they saw fit, and that this action by lessening the value of the timber to them was to that extent confiscation.

The authors of the legislation held that when the holders acquired these limits they obtained a license to cut for one year only; that they understood when acquiring them that if they obtained a renewal of their license the following year it must be subject to such regulations as the Government saw fit in the interest of the Province to impose; that the new regulations applied to Canadian holders of limits as well, and was desirable in the interests of the Province.

The American limit holders also claimed that this regulation was ultra vires of the Provincial Legislature, being an interference with the "Trade and Commerce" which lay within the jurisdiction of the Dominion Government. The legislation was, however, allowed by the Dominion Parliament, and in 1899, by consent of the Attorney General of the Province, the case of the validity of the regulation was brought before the courts. Justice Steele, before whom the case was heard, gave judgment in favor of the Province, and at this writing no appeal has been taken from this decision.

TIMBER SALES.

In 1871 the area of timber land under license in Ontario was considerably increased, and the revenue largely augmented by the sale of extensive timber limits in the districts of Muskoka and Parry Sound. These areas had been thrown open for **Extensive** settlement by the "Free Grants and Homestead Act of 1868," but by a **Sales.** report dated September 26th, 1871, the Commissioner of Crown Lands

recommended that the lands remaining unsold and unlocated should be offered for sale as timber limits in berths not to exceed twenty square miles in area, under the following conditions. Each limit at its estimated area to be adjudged to the party bidding the highest amount of bonus. The bonus and first season's ground rent at the rate of \$2 per square mile to be paid immediately after the limit is adjudged. License to issue to the successful competitor within one month from the day of sale. All red and white pine timber or saw logs cut upon the said limits to be subject to the following special rate of timber dues. White and red pine timber, per cubic foot, $2\frac{1}{2}$ c.; white and red pine saw logs, per standard of 200 feet board measure, 30c. So much of the Crown Timber Regulations as conflicted with this order to be suspended for the purposes of this sale, but in all other respects to apply to the licenses to be issued. The Commissioner also recommended that the Department recognize the right of all purchasers or locators of Free Grant Lands to sell or dispose of pine trees on their lots subject to the payment of the above duties.

These recommendations were approved of on the 4th of October, 1871. By a subsequent Order-in-Council on 22nd of November an important additional condition was imposed in connection with these sales, the purchasers being prohibited from cutting any trees of less size than thirteen inches in diameter at the butt, all pine timber under that size being reserved. At the same time the duty of 30 cents per standard saw log on lands located to settlers, being considered too high was reduced to 15 cents.

The timber berths in the Muskoka and Parry Sound districts disposed of under these conditions on November 23rd, 1871, comprising an area of 487 miles, realized \$117,672 in bonuses.

The year 1872 is notable for a still more extensive sale of timber limits on the north shore of Lake Huron held on the 15th and 16th of October, when 5,301 square miles were disposed of, realizing as bonus \$592,601, and ground rent \$10,064, making a total of \$602,665. More than three-fifths of this area had previously been under license, but with the exception of 300 square miles, the licenses granted in this locality in former years had been allowed to lapse. Some little difficulty arose in connection with these sales by reason of the claims of saw mill owners who had been operating in a small way on the North Shore for some twenty years previous, manufacturing lumber mainly for local use. At first these mills were largely supplied with timber taken from Crown Lands without license or the payment of dues unless in exceptional cases. Afterwards applications were made for licenses by the owners, and in some instances small spaces of territory were assigned to the applicants, who, however, made considerably more extensive demands than appeared reasonable to the department. The settlers in some districts complained that the supply of lumber for local consumption was insufficient. To meet the case the following Order-in-Council was adopted on the 19th of April, 1872:

"The Committee of Council have had under consideration the Report of the Commissioner of Crown Lands, dated April 9th, 1872, wherein the Commissioner states that, with the view of promoting settlement on lands at present remote from the centres of traffic and to contribute to the comfort and well-being of those already settled in such localities, a supply of sawn lumber for the erection of dwellings, barns, etc., is an absolute necessity, and the means at the disposal of the Department of furnishing a supply of timber for saw mills to meet such necessity being limited, he considers it expedient, in order to supplement such means, that recourse for a supply of timber should be had

to lands held under license. The Committee advise that the Commissioner be authorized to withdraw, at any time, from any timber license hereafter issued or renewed, any lot or lots or portion of land, he may deem necessary for the purpose of enabling him to furnish lumber for the supply of saw mills, erected or to be erected, for the manufacture of sawn lumber for local consumption."

In order to obviate any misunderstanding and prevent any possible abuse of this privilege by the export of lumber taken from lands set apart for the supply of lumber for the settlers, and further as a reasonable guarantee to license holders that their interests would not be necessarily interfered with, the following clause was adopted on December 17th, 1872, as an addendum to the previous Order-in-Council :

"The timber from lands set apart for the supply of saw mills manufacturing lumber for local consumption, is to be cut and manufactured exclusively for such local demand and so disposed of, that any infraction of this condition, directly or indirectly may be followed in each case by cancellation of authority to cut timber or trees on the lands so set apart for the purpose above mentioned, and may be restored to the license from which the same were withdrawn."

The annual report of Hon. R. W. Scott, Commissioner of Crown Lands, for 1872, has the following explanation of the policy pursued by the Provincial Government with regard to the Crown domain : "The policy of placing under license the area disposed of at the late sale has been questioned on the ground that it was virtually locking up the country from settlement, and handing over absolutely to licentiates the timber which should have been retained as a permanent source of revenue to the Province ; the fallacy of such objections must be apparent in the face of the following facts, viz., that the lands will be as open for sale after being covered by license as they were before the existence of such license, and that the timber which has hitherto yielded no appreciable contribution to the Provincial Treasury will now, as a result of the territory being placed under license, be a prolific source of revenue, permanent as the existence of the material from which it is derived.

An aid to Settlement. "It was fairly assumed also, that placing the lands under license was the only means of settling the country, and it is gratifying to know that all the settlers in the Algoma district approve of the sale, and believe it was the one thing necessary to stimulate the growth and development of that neglected part of Ontario."

The Commissioner then referred to previous efforts to settle the territory which had resulted in failure. Seven townships had been laid out in the most desirable sections upwards of ten years before, and land offered to settlers at 20c per acre, but the average annual sales during that period had only amounted to 498 acres, and the greater part of the land sold was subsequently abandoned as unfit for cultivation. It therefore became evident that the only means of opening up the country for settlement was through lumbering enterprise. The report continued :—

"In view of the exceptional condition of the country, the timber being open to wholesale plunder along an uninhabited frontier, where every facility exists for easy transport of logs by towage to the shores of the United States, to prevent which would entail on the Department a large amount of outlay ; the recurrent destruction of the valuable staple by fires, the facts as given with respect to the sale of lands, showing clearly that in the absence of some auxiliary inducement, it would be vain to expect them to be taken up for actual settlement, the adoption of such steps as would meet the exigency in its several phases became absolutely necessary.

"The only action open to the Department under the circumstances was to offer the Timber Berths for sale at public competition by which the territory would be placed in such a position that its resources could be properly and advantageously controlled, and hundreds of millions of feet of valuable lumber saved to the Province, which would otherwise be destroyed by fire or plundered and carried away."

In order to supply the local demand for lumber on the North Shore of Lake Superior, owners of patented lands and purchasers of lands in that territory, were Lake Superior granted by Order in Council passed June 29th, 1872, the right to Lands. acquire the pine trees on their lands on making the additional payment of 50c per acre. It was provided that in case they declined to purchase the pine trees upon their lands the Crown Lands Department might dispose of them at the same rate to other persons, or in case of their being more than one applicant, to the one paying the highest additional sum per acre for the pine.

SETTLER'S RIGHTS TO PINE TIMBER.

One inevitable consequence of the failure to discriminate between agricultural and non-cultivable lands in the past, has been the frequent clashing of interests between the settler and the lumberman. The former having taken up land in a district covered by timber license found that after he had acquired full ownership in all other respects, the pine growing on his lot could be cut and carried away by the lumberman at his pleasure. The latter on his part complained that the value of his limit was continually being impaired by the inroads of settlers, who took advantage of the conditions of the land-granting system to obtain title of occupancy to lots with the object of clearing the land of its timber. In the earlier days of settlement the difficulties arising from this source were not serious, the incoming agricultural population naturally sought the most fertile and accessible areas, the operations of the lumbermen being largely confined to a region too distant and sterile to attract those in search of homesteads. Under the system then prevailing the lumberman explored the country until he found a heavily timbered area and then applied for a license, which he usually got on terms which involved a very trifling return to the public in proportion to the value of the privileges granted. When the Government began to realize the worth of the timber resources of this country, and to endeavor to secure for the public treasury a larger share of their value, they adopted a policy of as far as possible disposing of the pine before throwing the land open for settlement, and in laying out timber limits, included large tracts of agricultural and cultural land with the non cultivable districts which formed the principal pine-producing area. Moreover, the operations of the lumbermen, continued for a series of years, tended of themselves to attract settlement in and around the pine woods. The men employed in the lumber camps often squatted in the neighborhood, made small clearings and raised a little produce during the summer, looking to employment in the shanties in the winter time as their main source of subsistence. Thus small settlements grew up, and as population throughout the Province increased and it became necessary for those seeking homes to look farther afield, the demands of those engaged in the lumber trade and the opening up of the country through their operations attracted many to the debateable ground. Some who took up land in the lumbering region no doubt had an eye to the value of the timber on their locations as affording the means of eking out a livelihood during their first years of occupancy, while in other cases the conditions of settlement were abused by those who merely wished to acquire a colorable title in order to strip the land of its timber without intending to establish themselves permanently as settlers. A survey of the legislation respecting the disposal of public land shows that it was many years after the union of the

The Land Act of 1841. Provinces before the difficulties arising out of the conflicting interests of lumbermen and settlers became sufficiently pronounced to render it necessary to define their respective rights by legal enactment. "An Act for the Disposal of Public Lands" passed immediately after the union in 1841 prohibited the abuses which had prevailed to so grave an extent before the era of Responsible Government, in the indiscriminate granting of large tracts of land under various pretexts, by limiting free grants of land to fifty acres to be made only to actual settlers. Neither in this act nor in an amending enactment passed in 1849 to remove doubts as to whether under the provisions of the former measure the Crown had power to release escheats and otherwise modify the law is there any mention made of the settler's rights in the timber growing upon his land. In 1853 further legislation extended the

area of lots under the free grant system to 100 acres, and among the provisions of the act was one authorizing the Commissioner of Crown Lands to issue licenses of occupation to those intending to purchase and settle on public lands, giving them the right to occupy and maintain possession against trespassers as fully as they could do under patent. There is no reference in this act to the right to cut timber, or any definition of the respective interests of the settler and lumberman. "An Act respecting the Sale and Management of Public Lands," adopted in 1860, however, contained the following substitute clause in regard to licenses of occupation :—

"The Commissioner of Crown Lands may issue under his hand and seal, to any person who has purchased or may purchase, or is permitted to occupy or who has been entrusted with the care or protection of any public land or License of instrument in the form of a License of Occupation, and such person or the Occupation. assignee, by an instrument registered under this or any former act providing for registration in such cases, may take possession of and occupy the land therein comprised, subject to the conditions of such license and may thereunder, unless the same shall have been revoked or cancelled, maintain suits in law or equity against any wrongdoer or trespasser, as effectually as he could do under a patent from the Crown ; and such License of Occupation shall be prima facie evidence for the purpose of possession by such person, or the assignee under an instrument registered as aforesaid in any such suit ; but the same shall have no force against a License to cut timber existing at the time of the granting thereof."

This is the first enactment bearing on the respective claims of the license holder and the settler, and clearly determined the question so far, at all events as the position of the latter was concerned prior to the issue of his patent. It was followed up by an Order-in-Council dated May 27, 1869, which defined the rights of the parties somewhat more closely as follows :—

"All Pine Trees growing on or being upon any Public Land hereafter to be sold, and which at the time of such sale, or previously, was included in any Timber License, shall be considered as reserved from such sale, and such land shall be subject to any Timber

Settler's right to License, covering or including such land, in force at the time of sale ; and such trees may be cut and removed from such land, under **cut timber.** the authority of any such Timber License, while lawfully in force,

but the purchaser at such sale or those claiming under him or her, may cut and use such trees as may be necessary for the purpose of building, fencing, and fuel on the land so purchased, and may also cut and dispose of all trees required to be removed in actual clearing said land for cultivation, but no pine trees except for the necessary building fencing and fuel as aforesaid shall be cut beyond the limit of such actual clearing before the issuing of the patent for such land, and all pine trees so cut and disposed of (except for the necessary building, fencing and fuel as aforesaid) shall be subject to the payment of the same dues as are at the time payable by the holders of licenses to cut timber or saw logs.

"All trees remaining on the land at the time the Patent issues shall pass to the Pattee.

"Provided however, that this order shall not apply to any land to be sold as mining land under "The General Mining Act of 1869," nor to land to be sold to any Free Grant Locatee under the Regulation or Order-in-Council bearing date this day."

The "Free Grants and Homestead Act of 1868" providing for the setting apart of land for Free Grants to actual settlers expressly reserved to the Crown all pine trees upon such locations, with the customary exception of timber for building, **Free Grants** fencing, and fuel and those trees necessarily removed in clearing the land. **Act of 1868** All other pine trees cut before the issue of the patent were to be subject to timber dues. Trees remaining on the land at the time the patent issued were to pass to the pattee. An Order-in-Council issued May 27th, 1869 provided that all pine trees on land located or sold under the Free Grants and Homestead Act of

1868 should be subject to any timber license in force at the time of location or sale, or granted within five years subsequently and might at any time before the issue of the patent be cut and removed.

Doubts arose as to the construction of the Free Grants and Homestead Act of 1868, which rendered uncertain the right of the Commissioner of Crown Lands to issue licenses to cut timber upon lands located or sold to Free Grant settlers and some litigation resulted. This necessitated the passage of an explanatory act in 1877, by which the authority of the Commissioner to grant licenses including such lots was clearly laid down, and existing licenses covering Free Grant territory continued subject to any conditions and regulations specially applicable to such territory.

Further amendments of the Free Grants and Homestead Act were made in 1880 by a provision under which the patents for land located under the Act should contain a reservation of all pine trees on the land, and allowing the license-holder within whose limits the lot was included to enter the uncleared portion of the land, and cut and remove trees at any time during the continuance of his license. The patentee of land located or sold under the act, was to be paid on all pine trees cut on his land, on which dues had been collected by the Crown, the sum of 25 cents per thousand feet board measure, for saw logs, and \$3 on each thousand cubic feet of square or waney timber. In 1890 the rate of payment was increased to 33 cents per thousand feet for saw logs and \$4 per thousand for square or waney timber.

By an Order-in-Council dated the 18th day of May, 1899, it was provided that occupants, loctees, or purchasers of public lands, should not, unless under settlers licenses or for clearing, fencing or building purposes be permitted to cut or dispose of timber until they had gone into actual bona fide occupation of the land, built a habitable house of at least 16 by 20 feet, continuously resided there for six months and cleared and put under cultivation at least two acres.

THE SQUARE TIMBER TRADE.

A resolution adopted by the Legislative Assembly on February 8th, 1878, called for returns showing the quantity of saw logs, square and waney pine timber cut on public and private lands for each of the years from 1868 to 1877 inclusive. The figures are chiefly of interest as indicating the great fluctuations of trade during this period, resulting mainly from the unsatisfactory condition of the British market. The totals for the years specified in feet, board measure, are as follows:

1868.....	177,390,000	1873.....	589,178,742
1869.....	375,620,200	1874.....	406,185,320
1870.....	300,900,850	1875.....	396,681,522
1871.....	358,096,400	1876.....	294,729,327
1872.....	669,569,542	1877.....	270,260,979

The report of Hon. T. B. Pardee, Commissioner of Crown Lands for the year 1879, dealt at some length with the waste of valuable material involved in the manufacture of square and waney pine timber for shipment to England. Estimating that in squaring timber one-fourth of the wood was destroyed, the Commissioner calculated on the basis of the returns showing the production of square pine for the ten years 1868-1877, that a direct loss to the province of \$3,577,500 for this period had been sustained or an annual loss of \$357,750. In addition, the loss owing to the destruction of timber by fires, which might have been confined to a limited area, and possibly extinguished before great damage had been done, had they not been fed by the debris of trees left to rot and dry, was incalculable. "It is time," continued the report, "that the Canadian lumberman

engaged in the square pine business should open his eyes to the alarming waste of a material, the value of which is increasing every year, (that in fact he is stripping his limits and disposing of his timber frequently at a loss, or at best during several years past, at a rate which seldom pays more than the cost of cutting down, squaring, drawing and taking to market, while at the same time he leaves in the woods as useless one-fourth of each tree he levels to the ground, one-half of the timber so left being the most valuable

part of the tree); and see the necessity of turning his attention to saw

Great Waste. milling operations as a more economical mode of manufacturing his timber, by which he would not only benefit himself by turning to profitable account what is now so wantonly wasted, but the Province generally by increasing the field of labor for its people, while the Provincial Treasury would derive additional revenue from the material saved and utilized. * * *

"It is to be hoped that those who hold timber limits and have confined their operations to the manufacture of square pine, will see the propriety and necessity of speedily reducing the production to the smallest possible extent, with the object of wholly withdrawing from the trade at an early day."

RIVERS AND STREAMS.

The use of all streams and rivers upon the waters of which timber could be floated to its destination, has from the outset of the timber trade been a most important consideration to the lumberman. Debarred of this means of getting out his annual cut, the possession of limits at a distance from the main water highways would be of little value to him. The right of the licensee to use all such watercourses contiguous to his property, whether originally adapted for floating timber or capable of being made so by the construction of slides, the removal of obstacles to navigation or other improvements, is in fact essential to the utilization of the timber growing on the higher and more remote areas, and its refusal would render lumbering over a large proportion of the public Domain an unprofitable pursuit.

In the year 1881 a question of vital interest to the lumber trade was raised in connection with the right of one lumberman to use floatable streams which had been improved by another, who regarded them as his private property, Peter McLaren, who had made improvements on two streams, tributaries of the Mississippi river **Caldwell** in Lanark county, refused to permit W. C. Caldwell, another lumberman, to run his logs over the improvements. The matter came before the courts **vs.** **McLaren.** and the streams were held to be private property. As no fewer than 234 streams in the Province were in the same category, this decision, if allowed to stand, would have had a paralyzing effect upon the lumber trade, as the berths upon the upper waters of these streams could at any time be cut off from access to navigable waters at the will of the riparian owners below them. In the public interest, the Ontario Legislature, at the session of 1881, passed an act settling the question, by giving every one the right to float logs and timber down rivers, streams and creeks, but providing for the payment of reasonable tolls for the use of improvements. Before giving the text of this notable and fiercely contested measure, which for some years constituted one of the principal issues in Ontario politics, it may be well to glance at previous legislation on the same subject.

The earliest act dealing with the floating of lumber on streams is "an act to provide for the construction of aprons to mill dams over certain streams in this Province," passed in 1828. After reciting that "whereas it is expedient and found necessary to afford facility to the inhabitants of this Province engaged in the lumber trade, in conveying their rafts to market as well as for the ascent of fish in various streams now obstructed by mill dams, for the accommodation of those residing at a distance from the mouths thereof," it enacts as follows:

"That from and after the first day of May in the year of our Lord, one thousand eight hundred and twenty-nine, every owner or occupier or owners or occupiers of any

mill dam which is, or may be legally erected, or where timber is usually brought down the stream on which such mill dam is erected, or where salmon or pickerel Improvements abound therein in this Province, who shall neglect to construct or to Dams. erect a good and sufficient apron to his or their dam as hereinafter set forth, shall for such offence, yearly and every year, forfeit and pay the sum of twenty-five pounds of current money of this Province, one moiety thereof to His Majesty, his heirs and successors for the public uses of the said Province, and the support of the Government thereof, and the other moiety of the said sum to any person who shall sue for the same in any of His Majesty's courts of record within this Province.

" And be it further enacted by the authority aforesaid—that every such apron shall be erected and constructed in the following manner, that is to say: such apron shall not be less than eighteen feet wide, by an inclined plane of twenty four feet eight inches, to a perpendicular of six feet, and so in proportion to the height, where the width of the stream will admit of it, and where such stream or dam is less than fifteen feet wide, the whole dam shall be aproned in a like manner, with the same inclined plane."

This Act was amended by an Act of the Canadian Parliament in 1849. The most important section of this later measure is the following, defining the right of the public to use streams for floating timber:

" And be it enacted, that it shall be lawful for all persons to float saw logs and other Timber, Rafts and Craft down all streams in Upper Canada, during the Spring, Summer and Autumn freshets, and that no person shall by felling trees or placing any other obstruction in or across such stream prevent the passage thereof.

Floatable Streams Common to all. Provided always that no person using such stream, in manner and for the purposes aforesaid, shall alter, injure or destroy, any Dam or other useful erection in or upon the bed of or across any such stream, or to do any unnecessary damage thereto or on the Banks of such Stream. Provided there shall be a convenient Apron, Slides, Gate, Lock, or opening in any such Dam or other structure, made for the passage of all Saw logs and other Timber, Rafts and Crafts authorized to be floated down such streams as aforesaid."

The Act of 1849 was sufficiently clear as to the right of the public to use "floatable" streams, but left untouched the point as to whether streams which required improvements to make them available for floating timber could be used for that purpose by anyone other than the owner, and if so, on what terms. The "Act for Protecting the Public Interest in Rivers, Streams and Creeks," first adopted in 1881 as the outcome of the McLaren vs. Caldwell controversy, reads as follows:

1. So far as the Legislature of Ontario has authority, all persons shall, subject to the provisions of this Act contained, have, and are hereby declared always to have had, during the spring, summer and autumn freshets, the right to and may float and transmit

The Streams Bill of 1881. saw logs and all other timber of every kind, and all rafts and crafts, down all rivers, creeks and streams in respect of which the Legislature of Ontario has authority to give this power and in case it may be necessary to remove any obstruction from such river, creek or stream, or con-

struct any apron, dam, slide, gate-lock, boom, or other work therein or thereon, necessary to facilitate the floating and transmitting such saw logs and other timber, rafts or crafts, then it shall be lawful for the person requiring so to float and transmit such saw logs and other timber, rafts and crafts, and it is hereby declared always to have been lawful, to remove such obstruction, and to construct such apron, dam, slide, gate-lock, boom or other work necessary for the purposes aforesaid, doing no unnecessary damage to the said river, creek or stream, or to the banks thereof.

2. In case any person shall construct in or upon such river, creek, or stream, any apron, dam, slide, gate-lock, boom or other work, necessary to facilitate the floating or transmission of saw logs or other timber, rafts, or crafts, down any such river, creek or stream, which was not navigable or floatable before such improvements were made, or shall blast rocks, or remove shoals or other impediments, or otherwise improve the floatability of such river, creek or stream, such person shall not have the exclusive right to the use of

such river, creek or stream, or to such constructions and improvements; but all persons shall have, during the spring, summer and autumn freshets, the right to float and transmit saw-logs and other timber, rafts or crafts, down all such rivers, creeks or streams, and through and over such constructions and improvements, doing no unnecessary damage to the said constructions and improvements, or to the banks of the said rivers, creeks or streams, subject to the payment to the person who has made such constructions and improvements, of reasonable tolls.

3. The foregoing sections, and all the rights therein given, and all the provisions therein made and contained, shall extend and apply to all rivers, creeks and streams, mentioned in the first section of this Act, and to all constructions and improvement made therein or thereon, whether the bed of such river, creek or stream, or the land through which the same runs, has been granted by the Crown or not, and if granted by the Crown, shall be binding upon such grantees, their heirs, executors, administrators and assigns.

4. The Lieutenant-Governor in Council may fix the amounts which any person entitled to tolls under this Act shall be at liberty to charge on the saw logs and different kinds of timber, rafts or crafts, and may from time to time vary the same; and the Lieutenant-Governor in Council, in fixing such tolls, shall have regard to and take into consideration the original cost of such constructions and improvements, the amount required to maintain the same, and to cover interest upon the original cost, as well as such other matters as under all circumstances may, to the Lieutenant-Governor in Council, seem just and equitable.

5. The foregoing provisions of this Act shall apply to all such constructions and improvements as may hitherto have been made, as well as to such as may be in course of construction, or shall hereafter be constructed.

6. Every person entitled to tolls under this Act shall have a lien upon the saw logs or other timber passing through or over such constructions or improvements, for the amount of such tolls, such lien to rank next after the lien (if any) which the Crown has for dues in respect to such logs or timber, and if such tolls are not paid, any Justice of the Peace having jurisdiction within or adjoining the locality in which such constructions or improvements are, shall, upon the oath of the owner of such constructions or improvements, or upon the oath of his agent, that the just tolls have not been paid, issue a warrant for the seizure of such logs or timber, or so much thereof as will be sufficient to satisfy the tolls, which warrant shall be directed to any constable, or any person sworn in as a special constable for that purpose, at the discretion of the magistrate, and shall authorize the person to whom it is directed, if the tolls are not paid within fourteen days from the date thereof, to sell, subject to the lien of the Crown (if any) for dues, the said logs or timber, and out of the proceeds to pay such tolls, together with the costs of the warrant and sale, rendering the surplus on demand to the owner: Provided always that the authority to issue such warrant by such Justice of the Peace shall not exist after the expiration of one month from the time of passage of such logs or timber through or over any of such constructions or improvements.

7. Nothing in this Act contained shall be construed as interfering with the powers or rights of any company formed under the Act respecting Joint Stock Companies, for the construction of works to facilitate the transmission of timber down rivers and streams, being chapter one hundred and fifty-three of the Revised Statutes of Ontario, or with mill-dams, or the right to erect and maintain mill dams on streams; and the law respecting mills and mill-dams being chapter one hundred and thirteen of the Revised Statutes of Ontario, and any other law conferring rights in mill-dams shall remain the same as if this Act had not been passed.

8. All persons driving saw-logs, or other timber rafts, or crafts, down any such river, creek, or stream, shall have the right to go along the banks of any such river, creek, or stream, and to assist the passage of the timber over the same by all means usual among lumbermen, doing no unnecessary damage to the banks of the said river, creek or stream.

9. Every person entitled to tolls under this Act may make rules and regulations for the purpose of regulating the safe and orderly transmission of saw-logs, timber, rafts or crafts over or through such constructions or improvements, but no such rules or regulations shall have any force or effect until approved of by the Lieutenant Governor in Council, and the Lieutenant Governor in Council may revoke and cancel such rules and regulations so made and approved, and from time to time approve of new rules and regulations, which the person so entitled to tolls, as aforesaid, shall have the power to make.

10. If any suit is now pending the result of which will be changed by the passage of this Act, the court or any judge of such courts, having authority over such suit, or over the costs, may order the costs of the suit, or any part thereof, to be paid by the party who would have been required to pay such costs if this Act had not been passed.

The Act was disallowed by the Dominion Government which had taken Mr. McLaren's side in the controversy. The Ontario Legislature re-enacted the **Act Dis-allowed.** measure in 1882, and 1883, on each of which occasions the Dominion Government repeated its action. Simultaneously with the political struggle a legal conflict between the private contestants was going on in the Courts. When it reached the Privy Council the question was finally settled in favor of Caldwell. This legal victory decided the fate of the Act. When re-enacted for the fourth time in the year 1884 the Dominion Government yielded and allowed it to become law.

Extensive provincial works have from time to time been undertaken in the construction of slides and the removal of obstacles to the floating of timber. The **Slides and Dams.** amount of public money expended on slides, etc., on the Ottawa River and its tributary streams up to the 1st of January, 1845, was £24,682. An Act passed in that year made provision for levying tolls in connection with Public Works of this character, in accordance with which a schedule of slidge rates as authorized by the Governor in Council, was published in the Canada Gazette of May 3rd, 1845. The receipts for slidge dues on the Ottawa slides for 1846 were £946. The revenue from this source steadily increased with the growth of the lumber trade, until in 1866 the total receipts for slidge dues amounted to \$63,483. Since Confederation these dues have formed part of the revenue of the Dominion.

The amount expended by private enterprise on improvements to facilitate the descent of timber down rivers and streams has considerably exceeded the public expenditure for that purpose. According to a return made on May 28th, 1853, by A. J. Russell, Surveyor of Crown Timber Licenses at Bytown, to an address of the Legislative Assembly, the approximate outlay by private individuals for this purpose on the Ottawa and its tributaries amounted to £151,847. In the same year an act was passed to authorize the formation

Timber Slide Companies. in Upper Canada of Joint Stock Companies "for the purpose of acquiring or constructing and maintaining any dam or dams, slide or slides, pier or piers, boom or booms, or other work or works necessary to facilitate the transmission of timber down any river or stream in Upper Canada, and for the purpose of blasting rocks, or dredging or removing shoals, or other impediments or otherwise of improving the navigation of such streams for the said purpose."

They were authorized to levy tolls upon timber passing downwards on a basis of 10 per cent. on the amount invested and the cost of maintaining and superintending the works.

In 1855 the Act was extended to Lower Canada and some amendments made, the proportionate rate on saw-logs being reduced to one-twelfth in place of one-eighth of the amount charged on sticks of pine timber.

The powers of Timber Slide Companies have been considerably extended by subsequent legislation, and the regulations governing their proceedings assimilated to those of Joint Stock Companies generally. The Timber Slide Companies Act of 1881 provides that Companies incorporated under the Ontario Joint Stock Companies Letters Patent Act may be granted by the Lieutenant-Governor-in-Council the powers authorized by the Revised Statutes respecting Joint Stock Companies for the construction of works to

facilitate the transmission of Timber down Rivers and Streams. The rate of dividend may be fixed in the letters patent at not more than 15 per cent, and in such case the Commissioner of Public Works in considering the tolls to be allowed, shall have regard to such rate, but no such rate shall be so fixed for a longer period than 10 years. The existence of any company may be limited to a fixed term of years by the letters patent and upon the expiration of this period all the dams, slides, piers, booms and other works constructed by the Company become the property of the Crown without compensation to the Company or the shareholders.

The driving of saw-logs and the confusion and trouble arising from jams of logs in the water causing delay to the floating operations of other lumbermen and the mixing of logs belonging to different proprietors, was a frequent source of disputes and disagreements among lumbermen using the same stream. In 1887 the following act was adopted by the Legislature to regulate the driving of saw-logs and define the respective rights and liabilities of the parties concerned.

ACT TO REGULATE LOG DRIVING.

1. The following words wherever used in this Act have the following meaning, viz:—

1. "Logs" mean and include saw-logs, timber, posts, ties, cordwood, and other things being parts of trees.

2. "Water" means and includes lakes, ponds, rivers, creeks and streams.

2. Any person putting, or causing to be put, into any water in this Province, logs, for the purpose of floating the same in, upon or down such water, shall make adequate provisions and put on a sufficient force of men to break, and shall make all reasonable endeavours to break jams of such logs and clear the same from the banks and shores of such water with reasonable despatch, and run and drive the same so as not to unnecessarily delay or hinder the removal, floating, running or driving of other logs, or unnecessarily obstruct the floating or navigation of such water.

3. In case of the neglect of any person to comply with the provisions of the preceding section, it shall be lawful for any other person or persons desiring to float, run or drive logs in, upon or down such water, and whose logs would be thereby obstructed, to cause such jams to be broken and such logs to be cleared from the banks and shores of such water, and to be floated, run and driven in, upon and down such water.

4. The person or persons causing such jams to be broken or such logs to be cleared, floated, run or driven, pursuant to the last preceding section, shall do the same with reasonable economy and despatch, and shall take reasonable care not to leave logs on the banks or shores, and shall have a lien upon the logs in the jam or so cleared, floated, run or driven for the reasonable charges and expenses of breaking the jams and the clearing, floating, driving, running, booming and keeping possession of such logs, and may take and keep possession of such logs or so much thereof as may be reasonably necessary to satisfy the amount of such charges and expenses, pending the decision by arbitration as hereinafter provided for. The person taking possession of logs under this section shall use all reasonable care not to take such logs beyond the place of their original destination, if known, but may securely boom and keep possession of the same at or above such place. The owner or person controlling such logs, if known, shall be forthwith notified of their whereabouts, and if satisfactory security be given for the amount of such charges and expenses, possession of the logs shall be given up.

5. When the logs of any person upon or in any water in this Province, or the banks or shores of such water, are so intermixed with logs of another person or persons, that the same cannot be conveniently separated for the purpose of being floated in, upon, or down, such water, then the several persons owning or controlling the intermixed logs, shall respectively make adequate provisions, and put on a fair proportion of the men required to break jams of such intermixed logs, and to clear the same from the banks and

shores of such water with reasonable despatch, and to float, run and drive the same in, upon and down such water, and the costs and expenses thereof shall be borne by the parties in such proportions as they may agree upon, and in default of agreement as may be determined by arbitration as hereinafter provided for.

6. In case of neglect of any person to comply with the provisions of the last preceding section, it shall be lawful for any other person or persons whose logs are intermixed, to put on a sufficient number of men to supply the deficiency and break jams of such intermixed logs, and to clear the same from the banks and shores of such water, and to float, run and drive all such intermixed logs in, upon and down such water.

7. The person or persons supplying such deficiency and causing such jams to be broken, or such intermixed logs to be cleared, floated, run or driven pursuant to the last preceding section, shall do the same with reasonable economy and despatch, and shall take reasonable care not to leave logs on the banks or shores, and shall have a lien upon the logs owned or controlled by the person guilty of such neglect, for a fair proportion of the charges and expenses of breaking the jams, and the clearing floating, running, driving, booming and keeping possession of such intermixed logs; and may take and keep possession of such logs, or so much thereof, as may be reasonably necessary to satisfy the amount of such fair proportion of charges and expenses pending the decision by arbitration as hereinafter provided for. The person taking possession of logs under this section shall use all reasonable care not to take such logs beyond the place of their original destination, if known, but may securely boom and keep possession of the same at or above such place. The owner or person controlling such logs, if known, shall be forthwith notified of their whereabouts, and if satisfactory security be given for the amount of such proportion of charges and expenses, possession of the logs shall be given up.

8. When logs of any person, upon or in any water in this Province, or the banks or shores of such water, are intermixed with logs of another person or persons, then any of the persons whose logs are intermixed, may at any time during the drive require his logs to be separated from the other logs at some suitable and convenient place, and after such separation he shall secure the same at his own cost and expense, in such manner as to allow free passage for such other logs; provided that when any logs so intermixed reach their places of original destination, if known, the same shall be separated from the other logs and after such separation the owner shall secure the same at his own cost and expense.

9. The several persons owning or controlling the intermixed logs shall respectively make adequate provisions and put on a fair proportion of men required to make the separation, the cost and expense of such separation shall be borne by the parties in such proportions as they may agree upon, and in default of agreement, as may be determined by arbitration as hereinafter provided.

10. In case of neglect of any person to comply with the provisions of the last preceding section, it shall be lawful for any other person or persons, whose logs are intermixed, to put on a sufficient number of men to supply the deficiency, and the logs owned by or controlled by the person guilty of such neglect shall be subject to a lien in favor of the person or persons supplying the deficiency, for a fair proportion of the charges and expenses of making the separation, and for the reasonable charges and expenses of booming and keeping possession, and such person or persons may take and keep possession of such logs or so much thereof as may be reasonably necessary to satisfy the amount of such fair proportion of charges and expenses pending the decision by arbitration as hereinafter provided for. The person taking possession of logs under this section shall use all reasonable care not to take such logs beyond the place of their original destination, if known, but may securely boom and keep possession of the same at or above such place. The owner or person controlling such logs, shall be forthwith notified of their whereabouts, and if satisfactory security be given for the amount of such proportion of charges and expenses, possession of the logs shall be given up.

11. The security referred to in section 4, 7 and 10 may be by bond in form A in the schedule hereto, or by deposit of money, or in such other way as the parties may agree upon.

12. If it be determined by arbitration as hereinafter provided for, that any person acting under the assumed authority of this Act, has without just cause taken possession of or detained or caused to be taken possession of or detained logs of another person, or has after offer of security which the arbitrators may think should have been accepted detained such logs, or has through want of reasonable care left logs of another person on the banks or shores or has taken logs of another person beyond the place of their original destination, contrary to the provisions of sections 4, 7 or 10, then such first mentioned person shall pay to such last mentioned person such damages as the arbitrators may determine.

13. The lien given by sections 4, 7 and 10 of this Act, shall be subject to the lien (if any) of any person or corporation for tolls or dues for the use of any works or improvements made use of in running or driving such logs.

14. Nothing in this Act shall affect the liens or rights of the Crown upon or in respect of any logs.

15. All claims, disputes and differences arising under this Act shall be determined by arbitration as hereinafter provided for and not by action or suit at law or in equity.

16. The person claiming that another person has not complied with the provisions of this Act, or claiming payment of any charges or expenses under this Act, or claiming a lien upon any logs, or claiming damages under section 12, shall give to such other person, notice in writing, stating the substance of the claims made, and appointing an arbitrator and calling upon such other person to appoint an arbitrator within ten days after the service of such notice; if such other person does not, within such ten days, appoint an arbitrator, the Judge of the County or District Court of the county or district, or the Stipendiary Magistrate of the provisional county or the district, as the case may be, in which the logs in connection with which the claim or part of the claim is made, or the major portion of such logs are situate at the time of the service of such notice, shall, on the application of the person giving such notice, appoint a second arbitrator; the two arbitrators so appointed shall, within ten days after the appointment of the said second arbitrator, appoint a third, if such two arbitrators do not within such ten days appoint a third, the said Judge or Stipendiary Magistrate shall, on the application of either party, appoint such third arbitrator.

17. If any arbitrator refuses to act or becomes incapable of acting, or dies, and the parties do not concur in appointing a new arbitrator, the said Judge or Stipendiary Magistrate shall, on the application of either party, appoint such new arbitrator.

18. The parties may agree that the arbitration shall be by one arbitrator instead of by three, and they may either agree upon the arbitrator or may apply to the said Judge or Stipendiary Magistrate to appoint one.

19. The person on whom a claim is made and notice of arbitration served, may, at any time before the arbitration is entered upon or with leave of the arbitrators during the arbitration, give the claimant notice in writing by way of counterclaim, stating the substance of any claim arising under this Act, which such person may have against the claimant, and such counterclaim, unless barred under section 26, shall be determined in the arbitration and an award made with respect thereto.

20. The three arbitrators or the sole arbitrator, as the case may be, shall proceed with the arbitration with due despatch, and shall make their or his award in writing, under their or his hand within thirty days from the date of the appointment of such arbitrator, or the last of such three arbitrators, as the case may be. The parties may, by consent in writing, from time to time enlarge the time for making said award, or the said Judge or Stipendiary Magistrate may from time to time, either before or after the expiration of said time, enlarge the time for making said award.

21. The arbitrators or arbitrator may require the personal attendance and examination upon oath of the parties and their witnesses, and the production of all books and documents relating to the matters in question, and may determine by whom the expense of the arbitration, and the costs of the parties shall be paid, and the amount thereof; any

costs or expenses payable to a person having a lien upon logs, by virtue of this Act shall be added to the amount of such lien.

22. Chapter 64 of the Revised Statutes of Ontario intituled an Act respecting the cost of Arbitrations applies to arbitrations under this Act.

23. The person or persons having a lien upon logs by virtue of this Act may sell the same in order to realize the amount of such lien, and of the costs, charges and expenses connected with the sale. The arbitrators, or arbitrator, shall determine either by their award, or by separate document, the time, place and manner of such sale, and may, from time to time, give directions, in writing, respecting such sale, and the realization of such lien, and of the costs, charges and expenses connected therewith.

24. The award and directions in writing of any two of the three arbitrators, or of the sole arbitrator, as the case may be, shall be final and binding upon, and shall be obeyed by the parties, and shall be valid, notwithstanding any want or defect of form, or other technical objection.

25. The said Judge or Stipendiary Magistrate, as the case may be, may, on the application of either party, grant an order to compel any person or persons to attend and give evidence upon the arbitration, and to produce all books and documents relating to the matters in dispute, and obedience to such order may be enforced in the same way as obedience to any order of such Judge or Stipendiary Magistrate made in a cause or matter pending before him in court may be enforced, and the person neglecting or refusing, without lawful excuse, to obey such order shall be liable to an action by any person aggrieved by such neglect or refusal for the damages sustained by him thereby.

26. All claims arising under this Act shall be made by notice in writing under section 16, within one year after the same have arisen, otherwise they shall be barred.

27. The Lieutenant-Governor-in-Council may, from time to time by proclamation published in the Ontario Gazette, declare that any portion or portions of this Province, or any water therein shall, until further proclamation, be exempt from the operation of this Act, and thereupon the same shall be exempt accordingly.

28. Any portion or portions of the Province, or any water therein exempted by proclamation from the operation of this Act, may by proclamation published in the Ontario Gazette, be again brought within its operation until further proclamation, and so on from time to time.

29. This Act may cited and known as The Saw Logs Driving Act, 1887.

In 1887 some important changes in the tariff of timber dues were made. Standing timber had considerably increased in value since the rates then in operation were fixed, and the public interest required that the Province should receive a share in the increased value. Accordingly the rate of dues upon saw logs was advanced from 75 cents per thousand feet to \$1.00, or $33\frac{1}{3}$ per cent., and upon square and waney Timber Dues timber from $1\frac{1}{2}$ cent per cubic foot to 2 cents. At the same time the Increased. ground rent was increased from \$2 per mille to \$3, the changes taking effect on May 1st. An extensive sale of timber limits was held in 1887, certain territory on the Muskoka and Petewawa waters having become dangerously exposed to fire owing to the advance of settlement. An area of 459 square miles was disposed of, the prices being considerably in advance of those obtained at any previous sale. A sum of \$1,313,755 was realized, being an average of \$2,859 per mile.

In 1892 a radical departure in the methods of disposing of timber limits was effected by restricting the rights conferred by new licenses to the cutting of red and white pine only. All licenses issued previous to this date had included all kinds of timber, but it was pretty generally understood that the lumbermen in estimating Licenses to the value of limits only took the pine into account, regarding the Cut Pine Only. small quantities of hemlock, spruce and cedar which might be available as so much to the good, and attaching no value to the various hardwoods. The Department therefore,—anticipating that in future these kinds of timber, which, under the old system were practically thrown in with the pine for

nothing, might prove a valuable asset, which might be retained in their hands without lessening the revenue derivable from the pine timber—put up for sale under licenses, including the pine only, timber berths situated in the Nipissing, Algoma, Thunder Bay and Rainy River districts, aggregating 633 square miles, on which the dues were increased one-fourth, viz.: on saw logs, from \$1 to \$1 25 per thousand feet, board measure, and on square timber from \$20 to \$25 thousand feet cubic. The high prices received notwithstanding this increase, which exceeded by a large amount those of any previous sale, afforded sufficient evidence of the correctness of the position assumed. The total amount received was \$2,315,000, an average of \$3,657.18 per square mile. The highest figure obtained at any former sale was in 1887, when the heaviest individual bonus paid was \$6,300, and the average for all the berths disposed of at that time was \$2,859.

A portion of the territory disposed of in 1892 for which the highest price was paid was included in the boundaries of Algonquin Park. Much of the area of Algonquin Park Timber. this reserve, which had been previously sold, was under the old conditions of license, giving the limit holder the right to cut all kinds of timber. Being apprehensive of danger to the Park as a game and timber preserve, should the lumbermen claim their full privileges under the old form of license, the Government, under the power contained in all licenses, reserving the authority to alter the regulations, in 1898 withdrew the right to cut other woods than pine, in connection with all licenses for limits included within the area of the Park. Naturally there was some dissatisfaction among the limit owners, as the birch and spruce timber was beginning to be valuable, but as these trees were not of much marketable value at the time that the original purchase was made, the change was not felt to be a very great hardship and the regulation remains. As regards other licenses for berths sold previous to 1892 conveying the right to cut all kinds of timber, outside of Algonquin Park no change has been made as yet, and the yearly renewal for these limits is without restriction.

ONTARIO CULLER'S ACT.

An act providing for the licensing of Cullers in Ontario was adopted in 1890. Under its provisions it was made incumbent upon all persons cutting saw-logs on Crown Lands to cause to be kept such records and books as required by the Crown Lands Department, to be open at all times to inspection by any Crown Timber Agent, Crown Timber ranger, or other officer of the Department, and to be attested under oath at the end of the season by the person who has made the entries therein and handed over to the officer of the department authorized to receive the same. The Lieutenant Governor in Council was authorized to appoint a board or boards of examiners each consisting of three persons, to test the ability and knowledge of all applicants desiring to be licensed to cull and measure saw-logs out of Crown Lands. A license may be issued to any person reported by a board of examiners as competent to perform the duties of culler. After the passing of the act no person other than a licensed culler was to make measurement of saw logs cut on Crown Lands for the purposes of a return to the Crown Lands Department unless in cases where the services of a licensed culler were not procurable, when the Commissioner of Crown Lands was authorized to issue a temporary permit to any trustworthy and skilled person to act as culler. The duties of cullers were thus defined by the act:

"It shall be the duty of every culler to measure fairly and correctly to the best of his skill, knowledge and ability, all saw-logs which he may be employed to measure, making only such deductions as are necessary to allow for the rots or other defects, and to enter in his book of record, for the purpose of return to the Crown Lands Department, what he believes to be the proper contents of the log, noting also the number of saw logs rejected as worthless, commonly called culs."

"Upon all logs culled or rejected as wholly worthless he shall write the word 'cull' in plain letters, but he shall not mark 'cull' upon any log which is intended to be hauled to any river, lake or stream for the purpose of being driven to a mill."

All licensed cullers were required to submit their books and records of measurement for the inspection of Crown Lands agents or other officials of the department when called upon to do so, to give all information asked for if in their power, and furnish statements as required by the Department or its agents. At the end of the season every culler was required to make a sworn statement to the Department, showing the number of pieces measured and accepted and their dimensions, and also the number of pieces rejected as worthless. The penalty for neglect or refusal to carry out the provisions of the act was cancellation of the culler's license. Improper measurements or the making of false returns were similarly punishable with an additional penalty of a fine of not less than \$20 or more than \$100. The section forbidding unlicensed persons to make measurements of saw logs for the purposes of returns to the Crown Lands Department were not applicable to the operations of any lumber company, person or firm whose gross annual output was under 250.00 feet, board measure.

The Act was brought into force on January 1st, 1891, by a proclamation by the Lieutenant Governor in Council.

WOODMAN'S LIEN FOR WAGES.

By "The Woodman's Lien for Wages Act," enacted at the session of 1891, laborers engaged in lumbering in some districts were accorded similar rights to those extended to mechanics by existing legislation, by giving them a lien on the produce of their labor for the amount due as wages. The 3rd section of this measure provides that:

"Any person performing any labor, service or services in connection with any logs or timber in the districts of Algoma, Thunder Bay and Rainy River, shall have a lien thereon for the amount due for such labor, services or services, and the same shall be deemed a first lien or charge on such logs or timber, and shall have precedence of all other claims or liens thereon, except any lien or claim which the Crown may have upon such logs or timber for or in respect of any dues or charges, or which any timber slide company or owner of slides and booms may have thereon for or in respect of tolls."

The Act provides for the issue of an attachment, on an affidavit by the claimant that he has good reason to believe that the logs or timber are about being removed from the Province, or that the person indebted to him has absconded with intent to defraud his creditors, or that the saw logs or timber are about being cut into lumber so that they cannot be identified. In case the claim is established on a hearing before a Judge, the logs or timber are in default of payment to be sold in the same manner as goods taken in execution for the satisfaction of the judgment. Any number of lien-holders may join in taking proceedings under the Act.

By an amendment adopted in 1894, the provisions of the Act were extended to the districts of Muskoka and Parry Sound.

FOREST PROTECTION AND REFORESTRATION.

FIRE PROTECTION.

The great danger to the forests is the ravages of fire, which becomes largely increased with the advance of settlement, the extension of the railway system and the presence during the summer season of large numbers of persons in the woods. Great inroads have been made upon our woodland resources by devastating forest fires and with the increasing value of timber, the necessity of taking some action to check this cause of destruction, early forced itself upon the attention of the Government.

In 1859, Mr. P. M. Partridge, Superintendent of Woods and Forests appears to have referred to the question of fire protection in a general report made to the Commissioner of Crown Lands. This report, which was not printed, does not seem to have been productive of any legislation on the subject, and in 1867, the matter having become urgent because of the greater activity among mining prospectors in the Hastings and Ottawa districts, Mr. Partridge again addressed the Commissioner of Crown Lands as follows:—

MEMORANDUM FOR THE HON. THE COMMISSIONER OF CROWN LANDS.

The undersigned respectfully submits the accompanying extract from his General Report of 24th March, 1859. "On the necessity of taking some immediate action for the preservation of the Forests of the country from fires."

As it is probable that very extensive prospecting operations for gold will be carried on next summer in parts of the territories of Messrs. Way and Russell and that the numerous camps and other fires which the prospectors will undoubtedly make use of, will be additional sources of danger to our Forests, the undersigned would suggest that it is desirable that such precautionary measures be taken as the present laws admit of, and the interests of the lumber trade and the country require.

If a Gold Mining Division is organized, and an Inspector appointed, he might be clothed with such powers as the laws allow. The powers mentioned in Section 3 of the Gold Mining Act (27-28 Vict. Cap. 9,) taken in connection with sections 25 and 28 of Cap. 93, Con. Stats., Canada, might perhaps be made applicable in the premises. A cautionary clause might be inserted in all Gold Mining Licenses for the future.

(Sgd.) P. M. PARTRIDGE,

Supt. Woods and Forests.

OTTAWA, 21st February, 1867.

WOODS AND FORESTS,

P. S.—The undersigned had intended to add that the Law Officers of the Crown might be consulted as to what steps should be taken.

P. M. P.

The powers referred to in the Gold Mining Act of 27-28 Vict., were those vesting the Inspectors in Mining Districts with magisterial powers charged with the enforcement of the law, and sections 25 and 28 of Cap. 93 Consolidated Statutes of Canada refer to the punishment for arson by which any one doing malicious damages to trees or shrubs on private grounds or elsewhere to the extent of twenty cents were liable to fine or imprisonment.

This memorandum appeared to meet with the approval of the Commissioner, Hon. A. Campbell, who added to it the following instructions:—

(1) Create a gold mining division to embrace the townships.

(2) Prepare a form to be used as an appendix to such license, making provision as far as possible against danger from fires.

(3) Instruct Inspector to serve and give him reference to the sections of the 93 chap. Consolidated Stat. quoted by Mr. Partridge.

(4) In townships where no municipal organization exists, persons may be selected as suggested by Mr. Partridge for the duty he proposes (persons left by lumbermen in charge of their farms would probably be found very suitable men.)

(Sgd.) A. C.

23rd Feb. '67.

No action appears to have been taken at this time, perhaps owing to the pressure of business consequent upon the confederation of the Provinces consummated on July 1st of that year, (1867) when the Government of Upper Canada was permanently moved to Toronto.

Prevention of Forest Fires. During the session of 1878 there was enacted the first legislation looking to the suppression, or rather, the prevention of forest fires. This was entitled "an Act to Preserve the Forests from destruction by fire."

Lt.-Governor may proclaim a fire district. 1. The Lieutenant-Governor may, by proclamation made by him from time to time, issued by and with the advice and consent of the Executive Council, declare any portion or part of the Province of Ontario to be a fire district.

Publication of fire district. 2. Every proclamation under this Act shall be published in the *Ontario Gazette*, and such portion or part of the Province as is mentioned and declared to be a fire district in and by the said proclamation, shall, from and after the said publication, become a fire district within the meaning and for the purposes of this Act.

Revocation. 3. Every such portion or part of the Province mentioned in such proclamation shall cease to be a fire district upon the revocation by the Lieutenant-Governor-in-Council of the proclamation by which it was created.

Fires not to be started except for certain purposes and in certain periods. 4. It shall not be lawful for any person to set out, or cause to be set out or started, any fire in or near the woods within any fire district, between the first day of April and the first day of November in any year, except for the purpose of clearing land, cooking, obtaining warmth, or for some industrial purposes, the obligations and precautions imposed by the following sections shall be observed.

Precautions to be taken in case of clearing land. 5. Every person who shall, between the first day of April and the first day of November, make or start a fire within such fire district for the purpose of clearing land shall exercise and observe every reasonable care and precaution in the making and starting of such fire, and in the managing of and caring for the same after it has been made and started, in order to prevent such fire from spreading or burning up the timber and forests surrounding the place where it has been so made and started.

Precautions in case of cooking, etc. 6. Every person who shall between the first day of April and the first day of November, make or start within such fire district a fire in the forest, or at a distance of less than half a mile therefrom, or upon any island for cooking, obtaining warmth, or for any industrial purpose, shall—

1. Select a locality in the neighborhood in which there is the smallest quantity of vegetable matter, dead wood, branches, brushwood, dry leaves, or resinous trees;

2. Clear the place in which he is about to light the fire by removing all vegetable matter, dead trees, branches, brushwood and dry leaves from the soil within a radius of ten feet from the fire;

3. Exercise and observe every reasonable care and precaution to prevent such fire from spreading, and carefully extinguish the same before quitting the place.

Precautions in case of matches, burning substances, etc. 7. Any person who shall throw or drop any burning match, ashes of a pipe, lighted cigar, or any other burning substance, or who shall discharge fire-arm within such fire district, shall be subject to the pains and penalties imposed by this Act, if he neglect completely to extinguish before leaving the spot the fire of such match, ashes of a pipe, cigar, wadding of the fire-arm, or other burning substance.

8. Every person in charge of any drive of timber, survey or exploring party or of any other party requiring camp-fires, for cooking or other purposes within such fire district, shall provide himself with a copy of this Act, and shall call his men together and cause said Act to be read in their hearing, and explained to them at least once in each week during the continuance of such work or service.

9. All locomotive engines used on any railway which passes through any such fire district or any part of it, shall, by the company using the same, be provided with and have in use all the most approved and efficient means used to prevent the escape of fire from the furnace or ash-pan of such engines, and that the smoke stack of each locomotive engine so used shall be provided with a bonnet or screen of iron or steel wire netting, the size of the wire used in making the netting to be not less than number nineteen of the Birmingham wire gauge, or three sixty-fourths parts of an inch in diameter, and shall contain in each inch square at least eleven wires each way at right angles to each other, that is in all twenty-two wires to the inch square.

10. It shall be the duty of every engine driver in charge of a locomotive engine passing over any such railway within the limits of any such fire district, to see that all such appliances as above-mentioned are properly used and applied so as to prevent the unnecessary escape of fire from any such engine as far as it is reasonably possible to do so.

11. Whosoever unlawfully neglects or refuses to comply with the requirements of this Act in any manner whatsoever, shall be liable upon a conviction before any justice of the peace to a penalty not exceeding fifty dollars over and above the costs of prosecution, and in default of payment of such fine and costs, the offender shall be imprisoned in the common gaol for a period not exceeding three calendar months; and any railway company permitting any locomotive engine to be run in violation of the provisions of the ninth section of this Act shall be liable to a penalty of one hundred dollars for each offence, to be recovered with costs in any court of competent jurisdiction.

12. Every suit for any contravention of this Act shall be commenced within three calendar months immediately following such contravention.

13. All fines and penalties imposed and collected under this Act shall be paid one half to the complainant or prosecutor and the other half to Her Majesty for the public use of the Province.

14. It shall be the special duty of every Crown Land agent, Woods and Forest agent, Free Grant agent, and bush ranger, to enforce the provisions and requirements of this Act, and in all cases coming within the knowledge of any such agent or bush ranger to prosecute every person guilty of a breach of any of the provisions and requirements of the same.

15. Nothing in this Act contained shall be held to limit or interfere with the right of any party to bring and maintain a civil action for damages occasioned by fire, and such right shall remain and exist as though this Act had not been passed.

Under this Act the following "Fire Districts" were created.

DESCRIPTION OF "FIRE DISTRICTS" UNDER CAP. 23 OF THE STATUTES OF ONTARIO.

District No. 1.—Commencing at a point on the north shore of Lake Huron where Provincial Land Surveyor Albert P. Salter's meridian line between ranges numbers twenty-one and twenty-two west intersects the water's edge, said point being the southwest angle of the Township of Plummer; thence easterly, following the turnings and windings of the shore along the water's edge of Lake Huron and the Georgian Bay to

the mouth of French River; thence south easterly, along the easterly shore of the Georgian Bay, and taking in Parry Island, to the northwest angle of the Township of Matchedash; thence south-easterly along the westerly boundaries of the Townships of Matchedash and North Orillia to the south-west angle of North Orillia; thence north-easterly along the southerly boundary of North Orillia to the waters of Lake Oouchiching; thence easterly across said lake to the south-west angle of the Township of Rama; thence easterly along the south boundaries of the Townships of Rama, Dalton, Digby and Lutterworth to the north-west angle of the Township of Galway; thence southerly along the westerly boundaries of the Township of Galway and Harvey to the south-west angle of Harvey; thence easterly along the south boundaries of the Townships of Harvey, Burleigh, Methuen, Lake and Tudor, to the north-west angle of the Township of Elzevir; thence southerly along the west boundary of Elzevir to the south-west angle of said township; thence easterly along the south boundaries of the Townships of Elzevir, Kaladar, Kennebec, Olden, Oso and South Sherbrooke, to the south-east angle of the Township of South Sherbrooke: thence north-westerly along the easterly boundaries of the Townships of South and North Sherbrooke to the southerly boundary of the Township of Lavant; thence north-easterly along the southerly boundaries of the Townships of Lavant and Darling, to the south-easterly angle of the Township of Darling; thence north-westerly along the easterly boundaries of the Townships of Darling and Bagot to the north-easterly angle of the Township of Bagot; thence south-westerly along the northerly boundaries of the Townships of Bagot and Blithfield, to the easterly boundary of the Township of Brougham; thence north-westerly along the easterly boundaries of the Townships of Brougham, Grattan, Wilberforce and Alice, to the waters of the Upper Allumette Lake; thence north-westerly, following the water's edge of said lake and the Ottawa River to the head of Lake Temiscamingue; thence due north along the boundary between the Province of Ontario and Quebec to the northern boundary of the Province of Ontario; thence westerly along the said northern boundary to its intersection with the production northerly of Provincial Land Surveyor Albert P. Salter's meridian line between the said ranges numbers twenty-one and twenty-two west, and thence south-easterly along said meridian line produced to the place of beginning.

District No. 2.—All that part of the said Province lying west of Provincial Land Surveyor Albert P. Salter's meridian line between ranges twenty-one and twenty-two west, near Bruce Mines, in the District of Algoma, and west of the said meridian line produced to the northern boundary of the Province, the said meridian line being the western boundary of the Fire District established by the Proclamation of March 27th, 1878.

It will be observed that this Act applies only to settled districts and portions of the Province under process of settlement, while no provision was made for protection of timber limits not under municipal government, where the losses from fire were frequent and heavy, particularly after lumbering operations and the consequent inflammable debris covering the forest floor.

Fire Ranging System Proposed. In 1884 the great loss from fire becoming increasingly apparent, Mr. Aubrey White, then chief clerk of the Woods and Forests Branch of the Crown Lands Department addressed the following memorandum to the Commissioner of Crown Lands.

TORONTO, March 30th, 1885.

SIR,—I take the liberty of drawing your attention to the great destruction of the timber wealth of this Province, which is caused mainly by the careless setting out of fire at dangerous points in the forest during the heat of summer by settlers, lumbermen, hunters, explorers and others, which, though of apparently small amount when started, have often become vast conflagrations, laying waste miles of the forest, and destroying untold millions worth of public property.

I am well aware that this matter has for some time been a cause of much anxious consideration to you, and it is not to dwell upon the necessity for taking some action—as

that is universally admitted—that I now address you, but to submit for your consideration a plan or system under which much may be done to prevent such numerous and extensive fires as we have witnessed in the past, by exercising some supervision over the public domain, whereby, as far as possible, the starting of fires—except in cases of necessity—may be prevented, and fires which are assuming dangerous proportions may be controlled or extinguished, and generally taking such action as will, with a reasonable expenditure of money, reduce to a minimum the loss of timber by bush fires.

The period of the year during which this supervision would be required—which may be called the dangerous period—is included between the 1st day of May and the 1st day of October, as between these dates the bush, as a rule, is dry and inflammable, and fire runs with great celerity—while during the rest of the year, extending from October to May, the ground is covered with snow, or the moisture in the bush is such as to render any extensive fire impossible.

I would, therefore, suggest that during the dangerous period of each year, a certain number of men, to be called Fire Rangers, shall be stationed at points in the licensed and unlicensed lands of the Province, where from settlement, railway construction, lumbering or any other cause, fire is so frequently used as to be a source of danger.

There is great difficulty in arriving at an accurate estimate of the number of men required to protect a section of country, let alone the whole Province, as some limits, owing to the nature of the bush, prevalence of lakes, streams and swamps, sparse settlements, etc., will not require as close supervision as others, therefore it would be well nigh impossible for me here to state the number of men which would be adequate to make the service effective. When we come to place the men, the licensees—who are quite familiar with the topography, etc., of their limits—will be able to give us a fairly correct idea of how many men will be necessary on each limit; thus we will be able to deal satisfactorily with the licensed area—leaving the unlicensed, unsettled, and consequently less exposed parts of the Province to be dealt with by the Department as necessity may arise. I would therefore recommend that each licensee should be notified that these men would be appointed, and invited to state how many men would be required to properly guard his limits, the Department having the right, after consultation with the license holder affected, either to decrease or increase the number suggested, should it be thought expedient to do so.

The next point, and a most important one, is the selection of the men, as unless we get active, energetic men, of cool temper and good judgment, we shall not make the scheme a success; but in addition to the possession of the above qualities, they must have a thorough bush training, and be quite familiar with the limit on which they are stationed. Such men will know the various settlers upon a limit, their residences, habits—whether careless or the reverse—the parts of the limits which are most exposed or inflammable and need the closest watching, and above all, they will have practical ideas as to the proper steps to take in order to control or suppress a bush fire. Bearing all this in mind, and the necessity of having some further and more direct supervision over the men—scattered over an immense area as they will be—than could be exercised by the Department, I think the selection of them should also be left with the various licensees, as they will most certainly know the men best qualified to fulfill the duties of the position, the Department, of course, reserving the right to reject or remove any man considered unfit for the position, either from incapacity or through harassing of settlers, for where settlement and lumbering are going hand in hand, as they must do in this Province, it is of the utmost importance that no friction should arise between the settler and licensee, as should ill blood between the two classes be created, the whole system would prove unsuccessful, nor could any be devised which would preserve the forest if settlers were moved by malice to destroy it. The whole system presumes a good understanding between settler and licensee, and as I know that lumbermen now fully appreciate the folly and danger of quarrelling with settlers, I see no objection to allowing them to select the men, and what is of great importance is this, that these men feeling they owe their appointments to the licensee, and being under his supervision, there is every reason to believe that they will be more watchful and diligent than if they were only supervised by and responsible to the Department of Crown Lands.

The next point is the expense of the system and how it should be borne. It seems to me that the interests of the Government and the licensee should be regarded as equal in this matter, and that the whole thing being in the nature of an experiment, each, for the present, should bear half of the expenses not only of the Rangers but of suppression of fires and costs of prosecution under the Fire Act. The men should receive the following rates of pay, subject to reduction or increase as experience is gained : Ranger in charge of limit, three dollars per day ; assistants, two dollars per day, which amount should be understood to cover board and all expenses, except such as are caused by special emergencies or enforcement of the Fire Act ; they should be paid as their necessities required, which payments, and all expenses incurred, should be made upon application, forwarded through and recommended by the licensee. At the close of the season they should send in a proper account, upon a form supplied from here, and duly attested by affidavit, showing the number of days on duty and any special expenses incurred, with vouchers for the same, forwarding this account through the licensee, who should recommend it for payment. The licensee should then be debited with half the total expense, which should remain a charge on the limit, payable before renewal of license.

The clothing of the men with authority is the next consideration. This can be done by appointing them bush and Fire Rangers and instructing them from here as such, which will make them ex-officio officers to enforce the provisions of the Fire Act, under section 14 of the said Act. This will arm them with all necessary authority, and lend official prestige to them which will be found a valuable factor in dealing with settlers. This completes the scheme so far as its creation and organization is concerned, and we will now discuss their action in the field.

In instructing them from here it is not possible to frame rules which shall meet every emergency, and as they are presumed to be practical men it will be well to leave them plenty of latitude to deal with each case in such manner as their knowledge and presence on the spot may suggest ; at the same time it will be only proper that I should indicate briefly some of the more important of the duties which I think would devolve upon them.

Upon the ranger in charge of the limit will devolve the responsibility for any action taken in preventing or suppressing fires, and the expenses incurred in connection therewith. He will be furnished with a diary, in which he must enter the movements of himself and assistants, anything of interest or importance occurring on the limit, the nature of the country and timber where they travel, etc., so that the Department and licensee may be fully informed about the limit ; its topography and the timbered portions of it. This diary must be sent in at the end of the season, and should be accompanied with any report or recommendation in the direction of improving the scheme, which experience may suggest. Having been supplied with a number of posters of the Fire Act, they will, on reaching the scene of their duties, proceed to post them up in public and conspicuous places, and being also supplied with copies of the Act in pamphlet form, they will distribute these among settlers, residents or frequenters of the limit, explaining to them the provisions of the Act, calling particular attention to the penalty for the infraction thereof, and they will endeavor to inculcate a spirit of care and caution in setting out and preventing the spread of fires, informing them of their headquarters, inviting their co-operation and assistance to punish those who wilfully or carelessly disregard the Act, and, doing everything, in short, to secure the sympathy, confidence and support of the settlers. By doing these things, and keeping continually on the move, they will impart a thorough knowledge of the Fire Act, and keep alive an active interest in its enforcement.

In travelling through a limit where the country is broken or circumstances will permit, an elevated position should occasionally be sought, as that a view of the surrounding country can be obtained, by which they will ascertain the locality of any fire, and in the event of such being discovered where there is not a settler, or if it should be assuming proportions which would indicate danger, they should proceed at once to the spot and take steps to extinguish or control it.

Where settlers are living in a pine country, and require to burn their fallows or choppings during a dry period, the Rangers should impress upon them the necessity of choosing a calm evening to set out fire, and if the surroundings are dangerous, he should ask to be notified of the time, so that he might be on the spot and prepared to call in assistance if the fire should be spreading.

In the event of an emergency arising, that is to say, should a fire assume such proportions as to be beyond control of the Ranger and his assistants, or should the springing up of a wind render it advisable that a fire should be promptly extinguished, the superintending Ranger should be instructed that he may engage such outside assistance as will enable him to accomplish this object, paying the men employed reasonable wages, such as ordinarily prevail in the locality. He should also at once advise the licensee and the Crown Lands Department, by telegraph, if possible, so that some one to represent one or both should be sent, if thought desirable. On suppression of the fire the Ranger in charge should report all the facts to the Department, accompanying his report with pay list of the men employed, shewing number of days, names and rates paid. These should be sent through the licensee, who should recommend them for payment, if reasonable, the Department then paying the expense and debiting half to the licensee.

The foregoing is a sketch of the organization, rates of pay and duties of the Fire Ranging force proposed to be created, which can be modified or improved as experience is gained. I have not thought it necessary to describe minutely the various modes of combating bush fires, as the necessary steps depend largely upon the extent of the fire, state of the weather, nature of the localities and timber, and the persons on the ground who will be familiar with these points can best be left to deal with each fire as it occurs. What I desire is to obtain your approval of the principle of establishing some body to prevent the fearful destruction that has been going on, and I think I may fairly claim that the scheme I have now suggested is simple, will be far-reaching and effective, and comparatively inexpensive. You are aware that last year we tried the experiment of sending one of our ordinary Ranging staff on Mr. McLaren's limits, and another on McLachlan Brothers, keeping them there during the summer, and that these gentlemen have written testifying to the good effect, thanking the Department, and sending their cheques for half the expense.

In conclusion, I would suggest that an appropriation of five thousand dollars be taken for this service this season, and I am well satisfied that once the scheme is put in practical operation, and its good effects are seen and understood, all criticism will be disarmed and no exception will be taken to a much larger appropriation next year.

I have the honor to be,

Sir,

Your obedient servant,

AUBREY WHITE.

Circular to Limit-Holders. The course recommended by Mr. White was approved by the Commissioner, Hon. T. B. Pardee, and the same year the following circular was sent to limit-holders throughout the Province.

The Commissioner of Crown Lands, feeling the importance of creating some better organization for preventing the destruction of the forest by fire, has approved of a scheme, the principal points of which are herein stated to you, so that you may, should the position of your limits make it desirable, avail yourself of its advantages.

It is proposed that during the dangerous period, say from the first day of May to the first day of October in each year, there shall be placed on such limits as are exposed to danger a man or men who will be empowered and instructed to use every endeavor to prevent and suppress fires in every way possible, and the ranger who is placed in charge of a limit will be authorized to engage whatever help may be necessary to cope with a dangerous fire where prompt action is necessary; these men will be supplied with copies of the "Fire Act," and instructed to post them up in public and conspicuous

places, to visit each person resident on the limit and give them, if thought advisable, a copy of the Act, explaining to them its provisions, penalty for its infraction, etc., and to endeavor to enlist their assistance and sympathy to make the Act effective.

The Department will leave the limit-holder to suggest the number of men who should be placed on his limit, and as it is of all things necessary that practical bushmen of good judgment and well acquainted with the limit should be selected, he, the limit-holder, will nominate the man to be placed in charge of the limit and his subordinates, if any, the Department reserving the right to limit the number of men to be employed on any limit, and also to reject or remove any man whom it finds unfitted to discharge the duties of the position.

It is hoped that limit holders will recognize the necessity for recommending men of good judgment and cool temper, who, while fully discharging their duties, will not harass or annoy settlers or others, as, if an animus is created in the breasts of the settlers the scheme will undoubtedly fail to effect the result expected. Limit-holders will be expected to exercise supervision over these men and see that they thoroughly and effectually perform their duties.

With respect to remuneration, the Department thinks that the man in charge of a limit should be paid three dollars a day, which should cover board and ordinary expenses, and where subordinates are required, that suitable men can be obtained at two dollars per day, which should also cover board and ordinary expenses; the men will be appointed bush and fire rangers and instructed from here so as to clothe them with authority under section 14 of the Fire Act, and a copy of the instructions will be furnished each limit-holder.

As the limit-holder is reaping a large proportion of the benefit, it is intended that he should bear one-half of the cost of men and expenses which may be incurred under this scheme.

The Department will pay wages and expenses and charge to each limit holder his proportion, which will be made a charge upon the limit, and an account will be rendered at the close of the season, when prompt payment must be made.

Should you desire to avail yourself of this scheme you will at once address a letter to the Department to that effect, stating the limits you wish protected, the number of your license for current season, the number of men you would recommend to be employed, and submit a list of those you would recommend for appointment on your limits.

DEPARTMENT OF CROWN LANDS,
(Wood and Forest Branch,) April, 1885.

THOS. H. JOHNSTON,
Assistant Commissioner.

Results of the Fire Ranging. The results of this action were highly satisfactory to all concerned, as appears from the annual report of the Commissioner of Crown Lands for 1885, which contains the following with regard to the first season's experience of the fire ranging system.

"Under instructions from the Department thirty-seven men were placed in the field and kept on duty between the 1st day of May and the 1st day of October.

"The effect of their presence has been excellent. Fires were suppressed which otherwise might have become vast conflagrations, causing incalculable losses. Persons wantonly violating the provisions of the 'Fire Act' were promptly brought to justice and fined, and a general and strong interest in the direction of preventing the starting and spread of bush fires was created and kept alive.

"At the close of the season the licensees expressed their great satisfaction at the benefits resulting from the experiment, and urged its continuance and extension.

"The total cost of the service for 1885 was \$7,911, of which sum one-half has been refunded by the licensees, leaving the net cost of this service to the Department to be \$3,955.50."

The system once adopted was speedily extended. In 1886 45 men were employed as rangers, in 1887 the number was increased to 55, in addition to about 100 who were called on to give temporary assistance in fighting fire. The season was an exceptionally dry and dangerous one, so that the efficiency of the system in checking the spread of fires, which would otherwise have covered a much wider extent of territory, was thoroughly tested. The report of the Commissioner of Crown Lands for that year thus refers to the working of the system :—

"There is no doubt that the presence of the Rangers, and the prompt and active measures taken by them, materially prevented, and substantially reduced the losses—not only so but the Licensees were supplied with reliable information as to the quantity of timber damaged, its situation, and the force necessary to handle it this season before the grubs had time to seriously damage it, by which an enormous sum was saved to the Province and the Licensees."

Cost of the Service. The number of fire rangers employed and the cost of service has continued steadily on the increase as a larger proportion of the limit holders have realized the benefits of the system and availed themselves of its operation. In 1891 the number of rangers on duty had increased to 98 and the total cost of the

service to \$20,053. In 1896 sixty license holders took advantage of the system, employing 160 rangers, the total expenditure being \$31,396 which included \$1,969 for fire-ranging on Crown Lands not under license, it having been found necessary to put the system in force over a large area of Crown territory overrun with gold mining prospectors. The number of license holders who made application to have rangers put on duty upon their limits in 1897 was 69, in which season 179 rangers were employed on timber limits, in addition to 12 detailed for service upon Crown property. During the season of 1898, 195 rangers were on duty on licensed lands, with the result that notwithstanding the long continued drought which prevailed, the losses by fire on the territory under their supervision were insignificant. Eleven fire rangers were also employed on the Crown domain, whose services proved equally effective, as no extensive fires occurred in the area thus protected.

TREE PLANTING ON HIGHWAYS.

The Ontario Legislature in 1871 passed "an Act to encourage the planting of trees upon the highways in this Province and to give a right of property in such trees to the owners of the soil adjacent to such highways" which forms the basis of the existing law on the subject. The principal clauses are as follows :

1. "For the purposes of this Act, every shade tree, shrub and sapling now growing on either side of any highway in this Province, shall upon, from and after the passing of this Act, be deemed to be the property of the owner of the land adjacent to such highway opposite to which such tree, shrub or sapling is.

2. Any person owning land adjacent to any highway may plant trees, shrubs or saplings on the portion thereof contiguous to his land; but no tree, shrub or sapling so planted shall be so planted, that the same may be or become a nuisance in the highway, or obstruct the fair and reasonable use of the same, every tree, shrub or sapling so planted in the highway shall for the purposes of this Act be deemed to be the property of the owner for the time being of the land whose owner planted the same."

Municipal councils were given control over the removal of trees, where it became necessary, and a penalty of \$25 was imposed for the injury or destruction of roadside trees. Power was given to municipal councils to expend money in the planting of shade and ornamental trees, or to make money grants to individuals or associations for the same purpose. It was provided that the first

two sections of the Act given above should not apply to incorporated cities, towns and villages, unless the council should first pass a by-law making them applicable thereto.

This Act was superseded by the Ontario Tree Planting Act of 1883, which, in addition to vesting the ownership of trees planted or growing on the highway in the proprietor of the adjacent land, provided for the payment out of municipal and Provincial funds of bonuses for tree-planting. It enacted that the council of any municipality might pass a by-law for paying out of municipal funds a bonus or premium not exceeding twenty-five cents for each ash, basswood, beech, birch, butternut, cedar, cherry, chestnut, elm, hickory, maple, oak, pine, sassafras, spruce, walnut or whitewood tree planted on the highway, or on any boundary line between farms or within six feet of such boundary. The municipality was entitled to be recouped by the Provincial treasurer to the amount of one half the bonus paid on such trees as at the expiration of three years remained alive, healthy, and of good form, a sum of \$50,000 being appropriated by the Act and set apart as a fund for that purpose.

This measure remained in force until 1896, when it was repealed as a result of an investigation made by the Bureau of Forestry as to its operation. It was found that very few of the municipalities of the Province had availed themselves of its provisions, so that after it had been for nine years in full operation, only \$4,308.78, or less than one-tenth of the fund appropriated had been expended, and that for various reasons it had failed to commend itself to the public in most of the localities where a trial had been made. This shortcoming combined with the fact that under any circumstances, the planting of trees in isolated lines, while contributing to the beauty of the landscape, secures none of those practical advantages attained by their growth in masses as in the original forest, induced the Legislature to effect another change in the law. The measure substituted for the Act of 1883 retained and extended the principle of vesting the ownership of roadside trees in adjoining lot owners, making it applicable to all municipalities, without its adoption by special by-law being necessary in the case of urban municipalities. While the Government bonus on tree planting was abolished, the municipalities were authorized to grant municipal bonuses in encouragement of tree planting, provided they saw fit to do so. The following is the full text of the act:—

1. A person owning land adjacent to any highway, public street, lane, alley, place or square in this Province may plant trees on the portion thereof contiguous to his land, but no tree shall be so planted that the same is or may become a nuisance in the highway, or other public thoroughfare, or obstruct the fair and reasonable use of the same.

2. Any owner of a farm lot may, with the consent of the owner or owners of adjoining lands, plant trees on the boundaries of the adjoining lot.

3. Every tree so planted on such highway, street, lane, alley, place, or square, shall be deemed to be the property of the owner of the lands adjacent to such highway, street, lane, alley, place or square, and nearest to such tree, and every such tree so planted on a boundary line aforesaid shall be deemed to be the common property of the owners of the adjoining farms or lots.

4. Every growing tree, shrub or sapling whatsoever, planted or left standing on either side of a highway for the purposes of shade or ornament shall be deemed the property of the owner of the land adjacent to the highway and nearest to such tree, shrub or sapling. R. S. O., 1887, c. 201, s. 3.

3. (1.) The council of any municipality may pass a by-law for paying out of municipal funds a bonus or premium not exceeding twenty-five cents for each and every ash, basswood, beech, birch, butternut, cedar, cherry, chestnut, elm, hickory, maple, oak, pine, sassafras, spruce, walnut, or whitewood tree, which shall, under the provisions of this Act be planted within such municipality on any highway, or on any boundary line of farms as aforesaid, or within six feet of such boundary.

(2.) Such by-law may further provide for the appointment of an inspector of trees so planted; for their due protection against injury and against removal by any person or persons, including the owner, excepting as authority may be given therefor by special resolution of the council; for the conditions on which bonuses may be paid; and generally for such regulations as are authorized by sub-sections 20 and 20a of section 479 of The Consolidated Municipal Act, 1892. R.S.O. 1889, c. 201, s. 4.

4. The inspector shall make to the council one report for each year, if required to do so, giving the names of all persons entitled to any bonus or premium under the by-law, the number of trees of each species planted, and the amount of bonus or premium to which each person is entitled, and certifying that the trees have been planted for a period of three years, and that they are alive, healthy and of good form ; and upon the adoption of such report the bonuses or premiums shall be paid ; provided that in no case shall the council be liable to pay a larger sum in respect of trees planted under this Act than would be payable if the same had been planted at a distance of thirty feet apart, and in no case shall a bonus be granted where the trees are less than fifteen feet apart. R.S.O. 1887, c. 201, s. 5 : 53 Vic. c. 60, s. 1.

5. Where a municipality has prior to the passing of this Act passed a by-law under the authority of section 4 of The Ontario Tree Planting Act for granting bonuses for tree planting and has paid or has become liable under the said by-law for the payment of any premiums or bonuses with respect to trees planted prior to the passing of this Act, the Treasurer of the Province, out of any sum which may be voted by the Legislature for that purpose, upon receiving a copy of the inspector's report, certified by the reeve and clerk, may recoup to the treasurer of the municipality one-half of the sum paid by the municipality under the said by-law, the said report to be forwarded to the Treasurer on or before the first day of November in each year.

6. (1) Any person who ties or fastens any animal to or injures or destroys a tree planted and growing upon any road or highway, or upon any public street, lane, alley, place or square in this Province (or upon any boundary line of farms, if any such bonus or premium as aforesaid has been paid therefor), or suffers or permits any animal in his charge to injure or destroy, or who cuts down or removes any such tree without having first obtained permission so to do by special resolution of the council of the municipality, shall, upon conviction thereof before a justice of the peace, forfeit and pay such sum of money, not exceeding \$25 besides costs, as such justice may award, and in default of payment, the same may be levied on the goods and chattels of the person offending, or such person may be imprisoned in the common gaol of the county within which the municipality is situate, for a period not exceeding thirty days.

(2) One-half of which fine shall go the person laying the information, and the other half to the municipality within which such tree was growing. R.S.O., 1887, c. 210, s. 8.

7. Any person who ties or fastens any animal to, or injures or destroys any tree growing for the purposes of shade or ornament upon any boundary line between farms or lots, or who suffers or permits any animal in his charge to injure or destroy, or who cuts down or removes any such tree, without the consent of the owner or owners of such tree, shall be subject to the like penalties and liable to be proceeded against and dealt with as provided in the preceding section. R.S.O., 1887, c. 201, s. 9.

8. The council of every municipality may pass by-laws :

(1) To regulate the planting of trees upon the public highway ;
 (2) To prohibit the planting upon the public highways of any species of trees which they may deem unsuited for that purpose ;

(3) To provide for the removal of trees which may be planted on the public highway contrary to the provisions of any such by-law. R.S.O., 1887, c. 201, s. 10.

9. The Ontario Tree Planting Act and the Act passed in the 53rd year of Her Majesty's reign, chaptered 60, are repealed.

FOREST RESERVES.

The undue extent to which deforestation has been carried in the frontier counties of Ontario, and the prospect of the extension of similar conditions to the Northern regions, renders the problem of forest preservation one of increasing urgency. The idea that a considerable proportion of the land, including especially the non-arable tracts, should be maintained in perpetual forest, yielding its periodical harvest of timber as an essential economic factor of national prosperity, had its advocates from time to time among our public men. But the liability of the woods to destruction by fire with the advance of settlement, and the general though unfounded belief that only one crop of pine could be secured from the lands, for some time strongly militated against any com-

prehensive action in the direction of forest preservation. The scientific aspects of the question, however, were beginning to be studied and understood by a few people, and appreciating the growing importance of the subject and the need of popular education as to the value of maintaining a due proportion of woodland, the Ontario government in 1883 appointed Robert W. Phipps to the position of Clerk of Forestry.

As originally laid down, and for some years afterwards, the work was almost purely of an educational character, the publications issued being principally intended to rectify conditions in the cleared and cultivated portions of the province, where the remaining portions of the original forest are in private hands, and to show the need and desirability of replanting. At the same time the larger aspect of the question was not overlooked.

The office was at first attached to the Department of Agriculture, but after Mr. Phipps' death, and on the appointment of the present incumbent, a change was made in 1895 by which its scope was considerably extended. It was transferred from the Department of Agriculture to that of Crown Lands, and connected more directly with the work of administration. The Bureau of Forestry, as thus reconstituted, in place of devoting its main efforts to the dissemination of information among farmers and the formation of public opinion with respect to reforestation on private lands, has been entrusted with the preliminary investigations in connection with the forestry policy now undertaken in the management of considerable tracts of the Crown domain.

The first step in the direction of a policy of establishing permanent timber reservations was taken by the Ontario Government in 1893, in the setting apart of the Algonquin National Park. The first suggestion of the project was offered

Algonquin ed by Alexander Kirkwood of the Crown Lands Department, who, in a **National Park** memo dated December 21st, 1885, addressed to the Hon. T. B. Pardee,

Commissioner of Crown Lands, strongly urged the setting aside of such a reservation embracing the head waters of the Muskoka, Madawaska, Petewawa, and other streams. The matter was considered and preliminary investigations set on foot to ascertain the suitability of the territory indicated for park purposes. Some delay was caused by the ill-health of the Commissioner, which resulted in his death in 1889. Hon. A. S. Hardy who succeeded to the position, appointed a Commission comprising Aubrey White, Assistant Commissioner of Crown Lands, Archibald Blue, Director of Mines, Alex Kirkwood, Senior Officer of Lands Branch, Department of Crown Lands ; James Dickson, Inspector of Surveys, and Robert W. Phipps, Clerk of Forestry, to enquire into the fitness of the territory under consideration for the purpose of a forest reservation and national park. The report of the Commissioners was presented to the Legislature during the session of 1893, recommending the setting apart of a compact tract of land in the district of Nipissing, south of the Mattawa River and Georgian Bay, almost a parallelogram in shape and comprising eighteen townships. An act embodying the recommendations of the Commissioners, withdrawing this area from sale or settlement and constituting it a national park and forest reservation was adopted. The following year a considerable addition was made to the original area, bringing the total extent of the park up to 1,109,383 acres. The whole district is under timber license but as the act setting it apart provides that only pine shall be cut, the operations of the limit-holders cannot seriously detract from its forest character.

In June, 1897, at the instance of the Clerk of Forestry, a Royal Commission consisting of E. W. Rathbun, President of the Rathbun Company, Deseronto, lumberman ; John Bertram, President of the Collins Inlet Lumber Company, Toronto, Forestry lumberman ; J. B. McWilliams, Peterborough, Superintendent of Forest Commission Rangers ; Alex Kirkwood, Chief Clerk of Lands Branch, Crown Lands Department, and Thomas Southworth, Clerk of Forestry, were appointed to investigate and report on the subject of restoring and preserving the growth of white pine and other timber trees upon lands in the Province, which are not adapted for agricultural purposes or for settlement. After personally investigating considerable tracts of country and familiarizing themselves with the conditions prevailing in many lumbered-over and fire swept areas of non-agricultural land they presented a preliminary report on the 10th of December, 1897, which offered the following recommendations :

1. That the present system of fire ranging inaugurated by the Government in 1886 be extended so as to be compulsory on all the holders of timber berths and that all unlicensed timber land contiguous thereto be also protected by rangers employed by the Government. That all fire rangers be subject to the inspection and control of the Department of Crown Lands.

2. That the officials of the Hudson's Bay Company be asked to co-operate with the Government in preparing and printing fire proclamations in the language of the Indians of the Northern Districts to be posted along the canoe routes throughout the territory.

3. That for all unworked limits on which the ground rent shall be two years in default on the termination of the present license year, the license shall not be renewed, but that the berths be held by the Crown as forest reserves.

4. That the license-holders be not allowed to cut any trees for logs smaller than will measure twelve inches across the stump two feet from the ground unless under special forest conditions with the sanction and under the supervision of the district forest ranger.

5. That the Government take power by Order-in-Council to withdraw from sale or location and set aside to be kept in permanent Crown forest reserve, such areas of territory as are generally unsuitable for settlement and yet valuable for growing timber.

In accordance with these recommendations, the following Act enabling the Government to set apart permanent Forest Reserves, from time to time, was passed by the Legislature in 1898 :—

Forest Reserves Act. 1. The Lieutenant-Governor-in-Council shall have power to set apart from time to time such portions of the public domain as may be deemed advisable for the purposes of future timber supplies, but subject to such regulations as may be adopted under the provisions of section 4 of this Act.

2. Such tracts of land so reserved shall, by proclamation in "The Ontario Gazette," be declared to be permanent Crown Forest Reserves.

3. From and after the date of such proclamation no lands within the boundaries of such reserves shall be sold, leased or otherwise disposed of, and no person shall locate, settle upon, use or occupy such lands, or hunt, fish, shoot, trap or spear or carry or use firearms or explosives within or upon such reserves.

4. Such reserves shall be under the control and management of the Department of Crown Lands, and the Lieutenant-Governor-in-Council shall have power to frame regulations for the protection, care and management of the said Crown Forest Reserves.

5. Such regulations shall be published for four consecutive weeks in "The Ontario Gazette" and shall immediately thereafter have the force of law as if herein enacted, and shall be laid before the Legislative Assembly within fifteen days after its first meeting thereafter.

6. Any violation of any provisions of this Act or of any regulation made thereunder shall subject the offender, in addition to any other remedy, to a penalty of not more than fifty dollars and costs, and in default of payment thereof to imprisonment for a period of not exceeding six months, with or without hard labor, unless the said penalty and costs (if costs are imposed) are sooner paid, and the offender shall be liable for all damages resulting from any such violation to be recovered in any court of competent jurisdiction.

7. Any prosecution for a violation of this Act or any regulation made thereunder may be had under "The Ontario Summary Convictions Act" before any justice or justices of the peace having jurisdiction where the offence was committed.

8. This Act may be cited as "The Forest Reserves Act."

As will be seen by reference to the first portion of this volume, action has been taken by the Government in accordance with the provisions of the Act, by setting aside a tract of about 80,000 acres in the Counties of Addington and Frontenac as a Forest Reserve. The course followed by the administration in regard to forest preservation is necessarily of a largely experimental character, and in the absence of any local experience as to the workings of the principle, the extent and direction of future action with this end in view will depend very considerably upon the results observed from time to time in the initial and tentative stages of the movement.

INDEX

	PAGE.
Algonquin Park, Set apart	138
" Timber Limits in	125
American system, land and timber sales, compared with Canadian	85—89
Arbitration, between lumbermen	80, 100
Auction, Disposal of timber licenses by	63, 82, 93, 98
Baltic timber, compared with Canadian	37—40
Bertram, John	138
Bonuses, for tree planting	135—138
Boundaries, disputes concerning, among licensees	67
British Duties on timber	37, 40
British Market, change in demands of	82—84, 103
British North America Act, 1867	102
Brodie, W., on Tent Caterpillars	26—28
Buller, Hon. Charles	52
Bureau of Forestry	138
Burke, James Henry, Evidence of	90
Caldwell vs. McLaren, Suit of	117
Campbell, Hon. Alex., Commissioner Crown Lands, report of, 1864-65	96
Clergy Reserves	54
Confederation, timber management relegated to Provincial administration	102
Contractors for Royal Navy, Licenses issued to	35
Crown Lands administration before union of Provinces	52—59
Crown Lands, Management of	67
" Enquiry into	84—92
Crown Timber Act, 1849	71, 74
Cullers' Act, Ontario	125
Cullers, Legislation respecting	44—47
Customs duties on timber and lumber—	
American	111
British	37, 40
Canadian, 47, Export duties 102, Abolition of	111
Dams, Improvement of	117, 118
Davidson, Hon. John, Evidence of as to Crown Lands management (L. C.)	55
" Instructions as to issue of Licenses	62
Dawson, W. W., Evidence before Parliamentary Committee, 1849	66
Deforestation, Early protest against	63
Depression in lumber trade, 1847-48	66
Diameter limits on timber	49, 112
Drawback on lumber proposed	87
Driving Saw Logs, Act to regulate	121—124
Dues, Timber	50, 62, 64, 112, 124, 125
" System of levying	68, 69
" Defaults in payment of	94
(See also "Regulations.")	
Durham's (Lord) Report	52—55
Export Duties on Saw Logs, etc., imposed	102
Committees of Enquiry	105, 110
Duty abolished	111
Petitions for	82
Export of Saw Logs liable to double dues	78
" prohibited	111
Export Forest Products, 1866	102, 103
Fall Wheat, winter killed where unprotected	19—22
Farm Forestry	17—23
Fire, Act to Preserve Forests from	128, 129
Fire, Destruction of Forests by	9, 69, 84, 90, 91
Fire Districts	129, 130
Fire Ranging System	130—135

	PAGE.
Floatable Streams, Right to use	118
Forest Guardian	13, 16
Forest Protection	126—135
Bill for, 1854—55	84
Forest Reserves, Report on	9—14
" Select Committee on	96
" Advocated by Hon. Alex. Campbell	96
" Act to set apart (L. C.)	97
" Opposition to	98
Forest Reserves Act, Ontario	5, 13, 139
Forestry, Clerk of	137
Forestry Commission	138
Forestry, Bureau of	138
Free Grants and Homestead Act, 1868	115, 116
French Regime, Regulations under	29—34
Galt, Hon. Alex. T., Views on Timber Policy	85
Gladstone, Right Hon. W. E., despatch respecting Timber Duties, 1846	40
Ground Rent	68, 69, 79, 82, 92, 99
Growth of Timber, Rate of	11—13
Hamilton, Wm., Evidence of	90
Hardwood not included in new licenses	124
Harris, Wm., Evidence of, 1849	69
Head, Sir F. B.	61, 62
Hemlock Bark, Export of	103
" Duty on recommended	104
Hickory	16
Highways, Tree-planting on	135—137
Huron, Lake, sale of timber limits, North shore	112
Inspector of Scows and Rafts, Act for appointment of	41
Kerr, J. H., Evidence <i>re</i> Crown Lands management	55—57
Kirkwood, Alex	138
Land Grants, excessive, effect on lumber trade	52—58
Land Owners, Right to trees on highways	135—137
Leaders and Associates, System of	53
Licenses, Form of	76, 77, 81
Licenses of Occupation	115
Licenses, Transfer of	64—66, 75, 80, 99
Lien for Wages	106
Limits, Size of	68, 74, 78, 99
Limits, Tenure of	96
(See also "Regulations")	
Local Saw Mills	112, 114
Lumber Trade, Act for Better Regulation of	44
" Parliamentary Enquiries (Canadian) into, 1849	66—71
" " " " 1854	84—92
" " " " 1863	95, 96
" " " (British)	38—40
" United States, how affected by land system	88
Maitland, Sir Peregrine	49
Marking of Timber, Act respecting	109
Measurement of Timber	68, 71, 75, 78, 101, 108,
Municipal regulation of Tree-planting	125
Muskoka, sale of limits in	135—137
Naval construction, Timber reserved for	112
New Brunswick, Timber output of	30, 33, 34
New Brunswick, Timber output of	66, 67
Oak Timber reserved under French grants	30, 31, 33
Occupation, License of	115
Over-production	66, 70, 94
Pardee, Hon. T. B., Fire Ranging system introduced by	133—135
Parliamentary Committee of Enquiry into Lumber Trade (Canadian) 1849	66—71
" " " " 1854	84—92
" " " " 1863	95, 96
" " " (British)	38—40
Parry Sound, Sale of Limits in	112

	PAGE.
Partridge, P. M., report, etc., on fire protection	127
Patronage, abuse of	60
Phipps, R. W., Clerk of Forestry	137
Pine lands reserved, 1817	48
Pine, Licenses limited to, 1892	124
" Settlers' rights to	114—116
" Red, reserved in French grant	33
" Decrease in demand for, in Britain	82—84
" Dues on, reduced	84
" White, reserved	35
" Increased British demand for	82—84
" Growth of young trees	9—13
Pollution of Streams, Legislation respecting	108, 109
Preservation, Forest	96
Preservation of Standing Timber, Act for (L. C.)	97
Protection of Growing Timber, Act for, 1860	92
Protection of Growing Timber, Act for (L. C.)	93
Public Lands. See "Crown Lands."	
Public Sale. See "Auction."	
Quebec, Forestry Legislation in	97—98
Rathbun, E. W.	138
Reciprocity Treaty	86, 102
Register for Licenses	80, 99, 106
Regulations, Crown Lands Department—	
1846	64—66
1849	74—76
1851	77—81
1866	98—101
1869	106—109
Regulations subject to change	71, 92, 111
Replanting	16
Renewal of License, Right to	68, 76, 99, 106
Reports, Departmental	92, 96
Revenue, "casual and territorial," controversy as to control of	59—62
Rvenue from Forests	8, 48, 58, 63, 82, 93, 102, 105, 125
Revenue, before and after Confederation	105, 106
Rivers and Streams	117—124
Robinson, Hon. Peter	50
Roblin, David	88
Rolph, Hon. John, Commissioner Crown Lands, Report, 1852	92
Rotation in timber cutting	96
Russell, Andrew J.	89
Sales of Timber	93, 112, 124, 125
Sawdust, pollution of streams by	109
Saw Logs, Driving Act, 1887	121—124
" Export of, petition for duty on	82
" Duty imposed	102
" Committee of Enquiry	105—110
" Duty abolished	111
" Export prohibited in Ontario	111
Seedlings for tree-planting	22
Shelter Belts	17—23
Shireff, Charles	58
Shireff, Robert	51
Seigniorial Tenure	29, 33
Settlement promoted by lumbering	91, 95, 113
Settlers' licenses	94, 107, 109
" Rights to pine timber	114—116
" Supply of lumber for	112, 114
Slides erected by Government	120
Small Trees, loss in cutting	8
Spragge, Wm., Recommendations of	85—87
Spruce Logs, Export duties on	102, 105, 110, 111
Square Timber Trade	116

	PAGE.
Square Timber, Wastefulness of	69, 86, 87, 117
Squatters, Loss of timber dues through	85, 90, 93
Stayner, T. A., evidence of	57, 58
St. Lawrence, navigation of	41—44
Streams Bill, 1881	118—120
Streams, Pollution of	108
Street Tree-planting	23—26
Sullivan, Hon. R. B.	51
Surveyor of Licenses, Duties of	80
Surveys, descriptive	94
Tent Caterpillars	26—28
Timber, Baltic	37—40
Timber Dues. (See "Dues," "Regulations.")	36
Timber Export Trade, growth of	66
Timber Licenses, conditions of	35, 50, 62, 124, 125
(See also "Licenses," "Regulations.")	
Timber marks, Act respecting	109
Timber Reserves	34, 35, 48, 50
(See also "Forest Reserves.")	
Timber Sales	93, 112, 124, 125
Timber Slide Companies	120, 121
Timber Standards	44, 45, 47
Timber supply	7, 8
Tree Planting Act, 1896	136
Tree Planting on Farms	17—23
" Streets	23—26
" Highways	135—137
Trespassers	31, 73, 75, 80, 94
Union of Canadian Provinces	62
U. S. demand for Canadian timber	56, 86
United States, Exports to	103
Vankoughnet, Hon. P. M., Commissioner Crown Lands, Report of, 1859	93
Vested Rights, not created by licenses	92
Wages, Lien for	126
Walnut, black	16
Waste in lumbering	8, 69, 86, 117
Wheat, fall, protection of by timber belts	19—22
White, Aubrey, Memo <i>re</i> Forest Reserve	15
Proposes fire ranging system	130—133
White, Jonathan R., evidence of, <i>re</i> American timber system	88
White Pine. (See "Pine.")	
Wilson, Henry, experience with windbreaks	22
Windbreaks and Shelter Belts	17—23
Woodman's Lieu for Wages Act, 1891	126
Young Pine Trees, growth of on Waste Land	10—13



UNIVERSITY OF TORONTO



3 1761 115470114

